



BUSINESS TECHNOLOGY LEADERSHIP

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the Future of IT Leadership

The first wave of CIOs is moving on. Is anybody there to fill the void?

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- » Six Keys to a Sound Succession Plan
- » Presenting the 2008 Ones to Watch

It all begins on Page 35.



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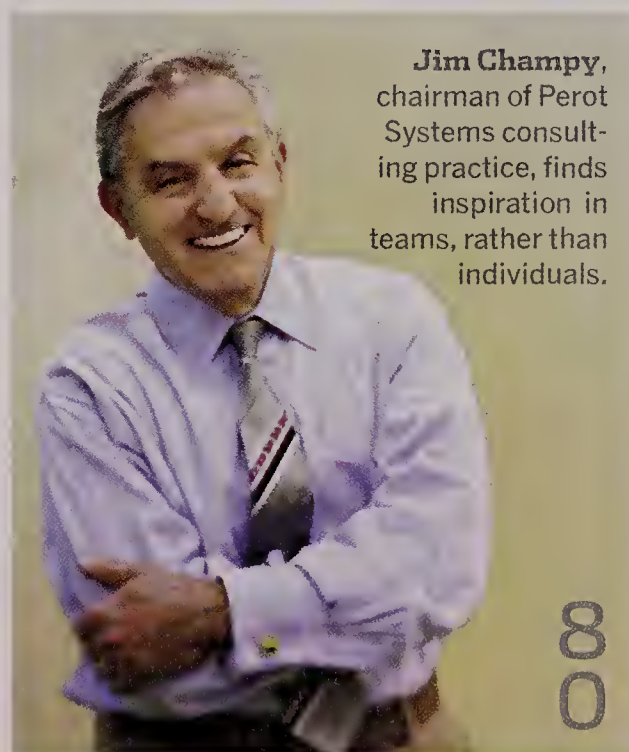
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[SECURITY]

Data Security Tips for CIOs: Wiping the Hard Drive

Whether you're the CIO of a 1,300-student liberal-arts college or that of a 13,000-employee Fortune 100 company, security issues are likely to be on your mind. Joanna Jasper, CIO for Catawba College, is responsible for donating end-of-life computers. She shares her experiences with data security technology and with managing used technology in a secure and environmentally friendly way.

» www.cio.com/article/332363

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Four Secrets to Becoming an IT Star

An easy, fast climb up the career ladder depends on earning the trust of your colleagues and demonstrating your promotability. CIOs share their advice on how to rise in the IT staff ranks.

www.cio.com/article/341213

[SOCIAL NETWORKING]

Corporate Networks Still Slow to Catch On

Social networks for internal collaboration seem like a good idea, but two obstacles are inhibiting their adoption: tools to automatically feed business information to the networks and the challenge of vying for attention with Facebook.

www.cio.com/article/344167

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A GOOD CIO IS HARD TO FIND

Meredith Levinson blogs about one company's



hiring process and why unqualified candidates

end up in the CIO role.

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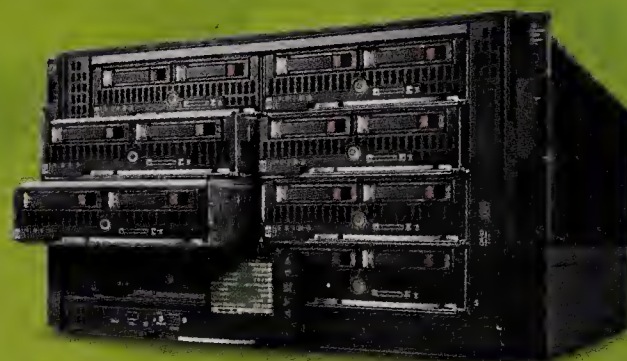
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FROM THE EDITOR

What Is Leadership?

As with so many things in life, it depends who you ask



Ask a group of people what the defining characteristic of a good leader is and you'll get a lot of different answers. I recently posed that question in Twitter, asking people to complete the sentence "Good leaders always..." Here's what I got back.

Good leaders always...

- listen (three people said this)
 - treat people with respect (two mentions)
 - communicate clearly
 - are considerate of others
- solicit competing views, take time to think and then make a firm decision
 - set the direction, then step back to support and enable the people who have to go there, letting them determine how to accomplish the vision
 - incorporate anthropology; i.e., engage understanding, context and motivations of constituents (peer, adversary, competitor, boss, customer, etc.)
 - inspire others
 - have good followers

I love this list! Particularly the last point, because if you don't start with the right people on the bus (as Jim Collins likes to say), you won't get very far.

That's why, for the fourth year in a row, we've produced a special report on leadership development. This year's package begins with a probing look at the future of IT leadership, and the picture is not all that bright. As the first full-career generation of CIOs begins to retire and others increasingly take on broader responsibilities or move out of technology altogether, many CIOs don't know who will lead IT in the years ahead, writes Michael Fitzgerald in "Finding Tomorrow's Leaders Today," on Page 35. To help you leave a different legacy, we've included features on both mentoring and succession planning, with lots of great lessons learned from your peers. We conclude with the list of this year's Ones to Watch honorees: men and women who have been double-vetted by accomplished CIOs—endorsed by their bosses and then evaluated by members of the CIO Executive Council.

And I guess we picked some good ones. In the months since we did the judging, at least three have received promotions. Congratulations to Tomas Gregorio, now VP and CIO at Newark Beth Israel Medical Center; Jackie Magno, SVP and CIO at SAP Business Objects; and Ed Earl, CIO at Littelfuse.

If you haven't checked out Twitter yet, please do! Four of the responses above came from IT execs. You can follow us at twitter.com/CIOMagazine.

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P.O. Box 9208, Framingham, MA 01701-9208

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A Call to Arms

What's up with the CIO role?



Something confounding is going on within the CIO community. Pat Lawicki, CIO at PG&E, senses it. Tom Cullen, CIO of Peet's Coffee, sees the trends. Walt Thinfen, CIO at Visioneer, and Robin Evitts, CIO of Clorox, also sense that something is afoot.

Overall the CIO community has done a wonderful job over the past three to five years in regaining its credibility. Most organizations now understand the value that technology brings to

the business, and most CIOs have earned their seat at the table with their CXO peers. Hopefully, operational efficiency is consistent and stable enough that CIOs can focus on the transformative and strategic elements of their business.

But despite all that has been achieved, I wonder if the CIO role is being taken for granted.

Our "State of the CIO 2008" research shows that the percentage of CIOs reporting to CEOs (41 percent) versus those reporting to CFOs (23 percent) has remained flat over the past few years. SIM recently released a study indicating that a higher percentage of CIOs are reporting to CFOs versus last year. Whatever research you look at, given that CIOs are adding more business value and becoming more invested in the customer, doesn't it seem odd that there isn't a massive shift of CIOs reporting to CEOs?

Maybe you've done too good of a job. Maybe, by effectively delivering real results, you've created the impression among CEOs, CFOs and COOs that technology implementation is "easy," so they now question the value of the CIO role. Or, maybe, as technology becomes even more central to all aspects of the business, other CXOs are beginning to feel a bit threatened by the new person sitting to their left or right.

It seems to me that CIOs are about to be at a crossroads of defending their turf. The question is, will they fall back and retreat into their technology comfort zone, or will they forge ahead and make sure that their voice and value proposition are seen and heard?

Maybe I'm misinterpreting the signals, but I don't think so. Something's going on. And for the sake of business performance, I truly hope CIOs step up to this next new challenge. If you think I'm off track, please drop me a note and let me know!

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NEW * HOT * UP

Open (Source) Sesame

VIRTUALIZATION Noah Broadwater, VP of information services for Sesame Workshop, likes open-source virtualization tools for several good reasons—starting with green ones that have nothing to do with Oscar the Grouch.

Broadwater recently faced a budget crunch at the same time he needed new Web servers and more room in his data center. His solution: new HP blade servers based on Novell's SUSE Linux Enterprise server software, which builds in virtualization software from Xen, a leading open-source alternative to VMware's offering.

"We said, Let's try it," says Broad-

water. "It saved us from buying new servers." Happy with the results, Broadwater planned a substantial virtualization project to make over his other servers, starting with his test and development boxes, beginning about one year ago.

Sesame Workshop spent approximately \$250,000 every three years on hardware and support for its Sun Solaris servers, Broadwater says. The new approach combined 25 virtual machines onto four physical servers within a blade center and reduced that cost to \$24,000 every three years, he says. His team also consoli-

Continued on Page 12



Demand for Mobile/Wireless Skills Rising

STAFFING A new survey of 3,578 IT managers suggests that proficiency in mobile technology for wireless and radio frequency (RF) will grow in importance over the next five years to become the most valuable IT skill.

Currently topping the list are security (74 percent), general networking (66 percent), and operating systems (66 percent), according to the survey by the Computing Technology Industry Association (CompTIA). The survey base was composed of at least 250 IT managers from around the world.

But the survey also found that mobile and wireless skills are expected to show the highest growth in demand. The survey didn't specify what was meant by "wireless and RF frequency technology" skills. However, CompTIA spokesman Steven Ostrowski says the phrase includes all the ways companies use wireless, such as

smartphones and handhelds, Wi-Fi networking and RFID implementations.

Those most likely to predict that wireless will be the most important skill in five years were IT managers in the healthcare industry (63 percent), followed by those in the education space (63 percent). Auto/manufacturing-sector IT managers were less likely to predict such strong growth in the importance of these skills.

Other skills expected to grow in importance over the coming five years include Web-based technologies, like Web 2.0, SOA, SaaS and Ajax, as well as Java and non-Microsoft programming languages, according to the survey. It also indicated that participants support sending tech staffers to external, professional training classes (42 percent) and offering rewards for those who enhance their skill sets (41 percent). —Al Sacco

Saving Trees, One Printer at a Time

GREEN I.T. Want to reduce the environmental impact of your office's printers and copiers? A new software calculator shows you how.

Xerox says its "Sustainability Calculator" uses proprietary algorithms and document assessment research to suggest ways to reduce energy and paper consumption from office devices. The calculator includes input fields to describe a printer or other office device, noting the kind of cartridges used; if the device is color or mono; how fast it produces pages; how many of those pages are printed per month; and whether the device uses the Energy Star power-saving guidelines. A second set of fields asks how an office manager would like to see the machines perform. The calculator then shows bar graphs covering energy consumption, greenhouse gases and the solid waste produced from empty ink cartridges through to retiring the machine.

The calculator is "a response to customers who wanted a more tangible way of seeing what the impacts would be of some of the document management solutions that we were bringing to the marketplace," says Xerox CEO Anne Mulcahy.

Defense manufacturer Northrop Grumman test-drove the calculator. After using the tool, the company dropped the number of printers and copiers in one division to 1,100 from 2,000, Xerox says. Subsequently, energy consumption fell 27 percent, greenhouse gases by 26 percent and solid waste by 33 percent.

The Sustainability Calculator will be offered through Xerox Office Services. A more advanced version of the calculator will offer suggestions based on usage patterns, Xerox says.

—Jeremy Kirk and Nancy Weil

The Tools They Use at Work

CULTURE Techno-savvy Millennials (workers born after 1980) access Web 2.0 applications more frequently than other employees. Fewer than half say they stick to work-sanctioned products, according to a survey by Symantec.

APPLICATION	MILLENNIALS	OTHERS
Personal e-mails	75%	54%
Facebook/MySpace	66%	13%
Instant messaging	46%	22%
Streaming audio/video	38%	18%
Photo-sharing applications	37%	17%
Gaming applications	23%	14%

SOURCE: Symantec

Virtualization

Continued from Page 11

dated 10 servers, including application, image and log servers onto four physical boxes. When the project is done, the company will reclaim two racks of space in its data center and reduce power consumption by 15 percent, Broadwater estimates.

Broadwater's desire to save via virtualization is not unique, but his choice of vendor is. Today, the majority of enterprise shops use VMware's tools.

Do many enterprise leaders even think Novell when they're considering virtualization options? "On the technology side, Novell has made significant headway; however I think they need to up their marketing efforts to further build brand recognition for their virtualization offerings," says Burton Group Research Analyst Chris Wolf. VMware has also built a more extensive lineup of partners, Wolf says.

So why didn't Broadwater use VMware? "Cost," he says. "VMware has a great solution, it's just very expensive. Second, we're a firm believer in and use a lot of open source. We actually work on open source projects and give code back." Broadwater has long used open-source tools such as the Apache Web server software.

As for why he went with Novell SUSE Linux: "We've had Novell in the data center a long time," he says. "With Novell, I knew what my support was, I knew how to work that system."

Broadwater says the plan is to be off Solaris within three years, moving over as much as possible on servers to Linux. By June 2009, Sesame Workshop plans to virtualize its 10 noncritical, low utilization servers, some of which are running Microsoft Windows Server 2003. Some of these are one-application, one-server relics. Thanks to virtualization, such servers will soon be in the past for Sesame Workshop.

—Laurianne McLaughlin

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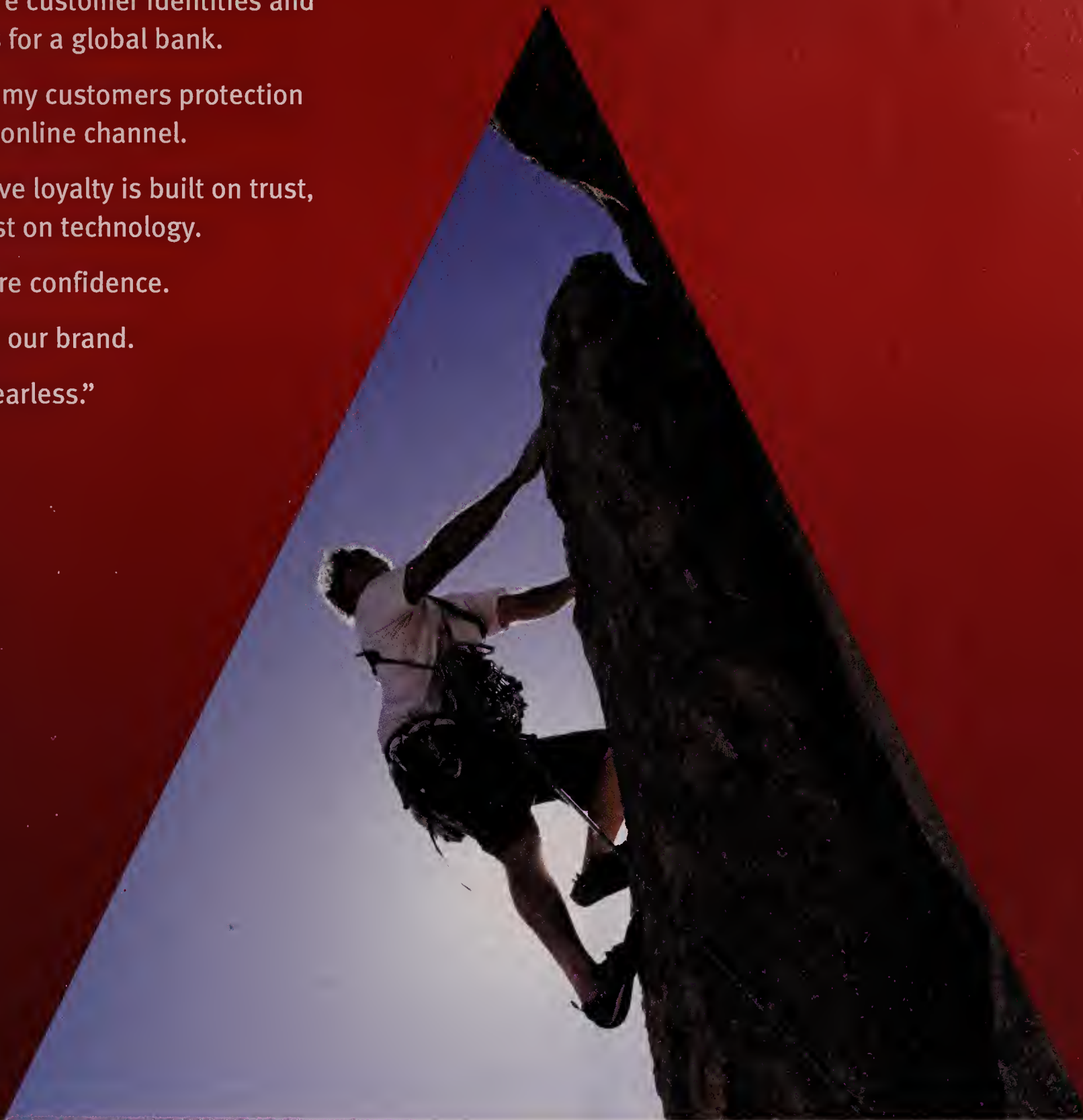
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ROI vs. TCO

I.T. METRICS Return on investment (ROI) metrics drove more IT project decisions in the past year than did total cost of ownership (TCO), an exclusive CIO survey finds. Which metric is used more often signals how the IT department is viewed inside your company.

An ROI calculation quantifies both the costs and the expected benefits of a project over a specific time frame, usually three to five years. TCO includes only costs. "When you think TCO you don't see IT as a business driver or an asset that can increase revenue, profit or customer value," says Anthony Giannino, a business development executive at Cornerstone Solutions, a value-added reseller.

In an online survey of 225 technology managers, 59 percent said that ROI influenced whether they pursued a project in the past 12 months, compared to 41 percent who reported that TCO justified the decision. In the coming 12 months, the relative difference in importance between the two measurements is more pronounced: 62 percent of respondents favored ROI, compared to TCO's 38 percent.

According to Wayne Sadin, CIO at Loomis USA and a survey respondent who chose ROI, "TCO only looks at one side of the equation." TCO, Sadin says, works well for must-do infrastructure projects, such as upgrading an e-mail system. But e-mail doesn't typically uncover new sources of revenue that ROI can measure, he says.

ROI or TCO may help companies choose how to spend their money. But Erik Dorr, senior business adviser at The Hackett Group consultancy, points out, "A lot of healthy business judgment is [still] involved. You can prove anything you want with a spreadsheet, but good managers have good intuition in judging how solid their assumptions are."

—Kim S. Nash



Starbucks Would Love Your Input

WEB 2.0 Think Starbucks should offer free Wi-Fi in its shops and reward frequent customers with free coffee? Now you can tell the coffee giant exactly what you think, and they might just do it.

Starbucks recently launched a website that lets anyone post ideas about how the struggling coffee maker can improve its offerings. Visitors can vote on ideas and add comments.

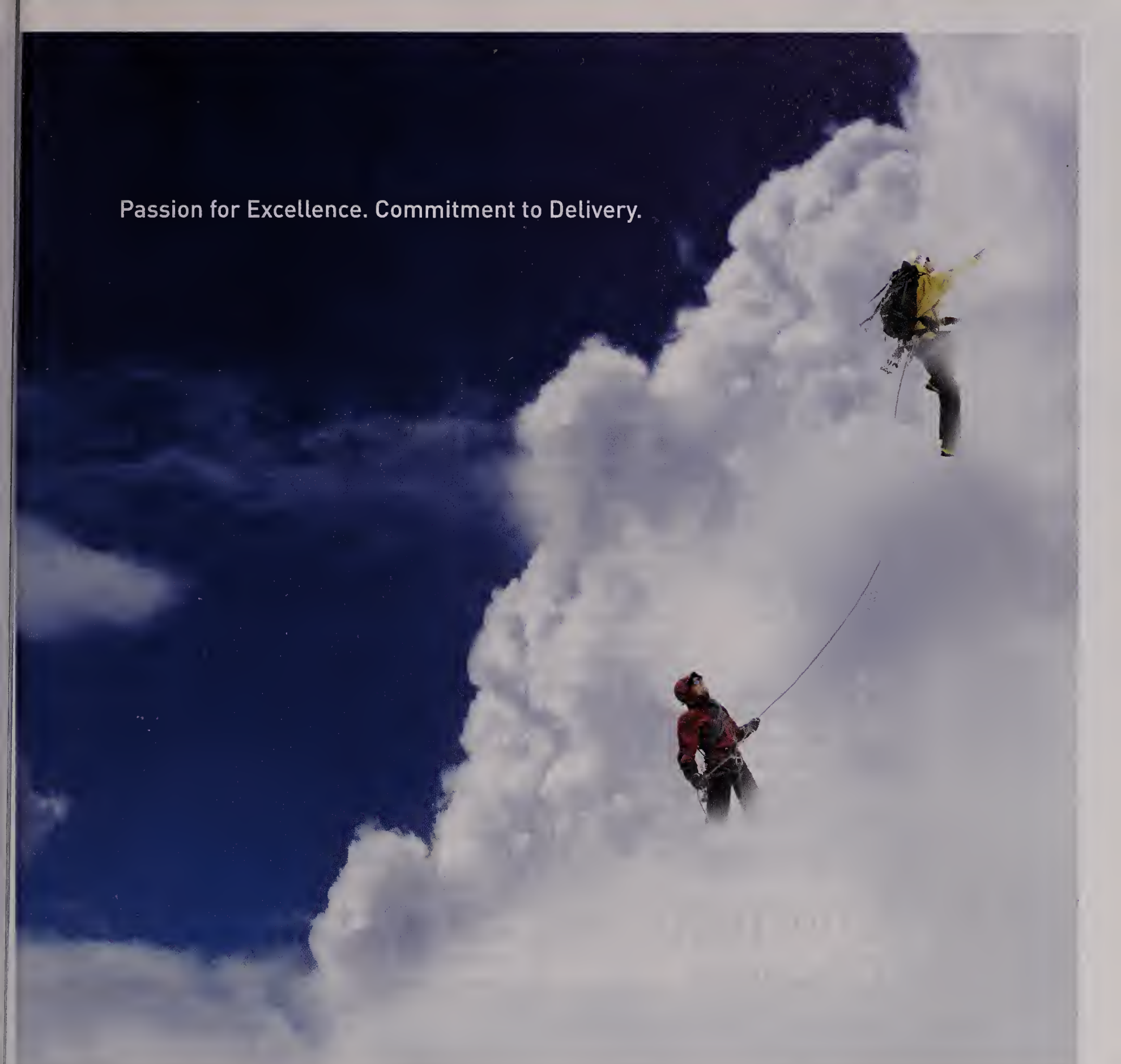
The site puts Starbucks at the forefront of a growing trend of companies using social networking applications to communicate with customers. While companies use services like blogs and social networking for employee communication, some are beginning to use such tools in external applications.

Called "My Starbucks Idea," the site is built on a hosted offering called Ideas from Salesforce.com. It is monitored by 40 internal "Idea Partners" with access to software tools that let them analyze the comments posted by running queries, using filters and running reports, says the company. They can add, modify and delete site content. The Idea Partners also choose ideas suggested on the site and work internally to recommend ways to implement them.

Such customer-facing websites can be a way for a company to try to control customer comments online. In Starbucks' case, the site offers an alternative to forums like "I Hate Starbucks," where customers post negative comments about the coffee company, says Rebecca Wettemann, an analyst at Nucleus Research. Instead of ranting on a site like that, a positive suggestion made on My Starbucks Idea can be considered for implementation by the company.

However, Wettemann advises against deleting negative comments on company-run sites because customers will be less apt to participate. In addition, companies must be committed to following up on such sites. "If there's criticism and it's not dealt with effectively, this can be more of a problem than a help," she says. "If you give someone a megaphone and then you turn it off, you haven't done any favors."

—Nancy Gohring



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U.S. Presidential Election Can Be Hacked

SECURITY According to security experts at a recent RSA Conference in San Francisco, the U.S. will pick a new president using electronic voting machines that can be hacked.

As the November election approaches, the question before officials is not how to fix known bugs in their e-voting systems, but how best to check them for fraud, says David Wagner, an associate professor with the University of California, Berkeley's computer science department.

Wagner was part of the team that audited California's voting systems, and the problems his team found affect counties across the U.S. "The systems we looked at are three of the most widely used around the nation," he said during a panel discussion at the show, which was held April 7-11. "They're

going to be using them in the 2008 elections; they're still going to have the same vulnerabilities we found."

County officials have spent billions over the past eight years on electronic voting systems in hopes it would take the guesswork out of vote counting. But panel members agreed they are insecure, and now states are being forced to make do with buggy equipment. "We have spent billions of dollars on equipment," Wagner said. "We don't have another several billion dollars."

The California audit examined systems from Diebold Elections Systems, Hart InterCivic and Sequoia Voting Systems, ultimately permitting their use in 2008, but only under certain conditions. In testing, Wagner and his team found

they could introduce a virus to any of the three systems that would then spread throughout the county and ultimately skew the vote count.

This year, most California voters will use paper ballots, which give officials a way to audit their machine-counted tallies for irregularities, but not all states have that option. About a quarter of the votes cast in the upcoming election will be on electronic voting equipment with no paper trail, Wagner said.

—Robert McMillan



BPM: Hot Tech Hits Obstacles

APPLICATIONS Business process management, or BPM, is a hot area. But BPM analysts say some CIOs and businesses are struggling with BPM initiatives.

Done right, BPM allows organizations to define, execute and refine processes that involve human interaction and manage dynamic process rules and changes, according to CIO's "ABC: An Introduction to Business Process Management" (www.cio.com/article/106609). However, a 2007 Aberdeen Group report titled "BPM Convergence" says getting business integration and workflow software products to work together remains a challenge for companies. "The results have been islands of BPM functionality scattered throughout the organization, each serving a discrete function," states the report.

According to the survey of more than 160 IT and

business executives and managers, the main obstacles to deploying a BPM system have less to do with technology and more to do with people and processes.

"Part of the solution is technical, but another part is organizational, and this is where many companies stumble," says the report. "It takes highly capable BPM products, a willingness to take a hard look at business processes to succeed and organizational maturity." As such, the top challenges are organizational: justifying a BPM investment and getting business buy-in.

Aberdeen's report makes several recommendations for improving BPM performance including:

Document processes. Understand your organization's business processes and how information flows through the enterprise.

Plan for enterprise convergence. If your company is already using standalone BPM applications, explore bringing them together into an integrated system. "New development should be capable of integrating into the enterprise BPM solution," states the report.

—Thomas Wailgum



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by the numbers

BY MARGARET LOCHER

Unified Communications: Can You Make the Case for Implementation?

UNIFIED COMMUNICATIONS (UC) is a hot topic in the corporate technology world. But the most informed CIOs know the market is still immature, says Forrester analyst Henry Dewing in his report *Top Unified Communications Predictions for 2008*.

According to the report, more than 50 percent of large enterprises are running, installing or considering UC solutions, defined as the combination of voice, video, e-mail and instant messaging to improve communication and streamline business processes. But Dewing suspects that the large enterprises and small and medium businesses he surveyed are actually deploying foundational UC infrastructure like IP-PBX or IM and Presence.

"The preparation of networking and computing infrastructure to support UC in the future seems to be the top agenda," he says.

Before deploying a full UC solution, explore whether it's right for your workforce. "CIOs want a solid business case before deploying," Dewing says, noting that some IT groups are reluctant to take the leap as they are not sure employees will actually use the tools or that predicted benefits will materialize. And yet many CIOs recognize the value of UC and the fact that eventual deployment is inevitable, he says.

Dewing's report predicts that in 2008, at least 20 percent of firms will buy hosted or managed UC services. "The newness of the solutions and the difficulty of integrating multiple features from potentially multiple vendors are making enterprises consider outside help in the form of hosted or managed UC features," he says.

Installing and configuring UC is a major challenge for CIOs, Dewing says. But it will pay off big-time, he says: "Getting a critical mass using UC tools can often cause a firm to reach a tipping point, where business suddenly happens more efficiently."

Best Practices

- 1 Link deployment to a business plan.** CIOs need to show the benefits of smoother employee communication before they can sell the idea of a enterprisewide UC implementation.
- 2 Help users make the most of the solution.** As UC is rolled out, make sure it isn't causing problems. For example, UC solutions should not show that a user is available following a meeting until the scheduled meeting time has ended, or the user has done something like type on his PC or make a phone call.
- 3 Track and encourage usage.** Nothing encourages collaboration more than having your brightest and most respected employees use the UC and collaboration tools. Where the leaders go, others will follow.

Where Firms Stand With Their UC Deployments

Fully Deployed, Upgrading, or Rolling Out

36% large enterprises

32% small and medium businesses

Still Have No Plans to Evaluate or Deploy UC

27% large enterprises

41% small and medium businesses

SOURCE: Forrester Research

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Now that both established vendors and upstarts offer BI applications as on-demand services, more customers are saying yes to SaaS — gaining faster deployments and speedier access to data

Run Fast With BI

BY THOMAS WAILGUM

BUSINESS INTELLIGENCE | Ask Dennis Hernreich, COO and CFO of Casual Male Retail Group, what his life was like before he switched to an on-demand business intelligence reporting application, and he remembers the frustration all too easily.

Casual Male Retail Group, a specialty retailer of big and tall men's apparel with \$464 million in annual sales, was using a legacy on-premises reporting application for its catalog operations. (The company also has 520 retail outlets and e-commerce operations.) But the reporting features built into the system were "extremely poor," as Hernreich describes them: "Visibility to the business? Terrible. Real-time information? Doesn't exist. How are we doing with certain styles by size? Don't know."

"It was unacceptable," Hernreich says. And viewing those "canned" BI reports (which lacked features such as exception reporting) could happen only by making a trip to the printer for a stack of printouts. "It was hundreds of pages," he recalls. "That's just not how you operate today."

It's not as if Casual Male didn't *have* all this information; it just didn't have an intuitive and easy way to get at its catalog business's sales and inventory trends in real time. But that changed in 2004, when Casual Male began using a hosted BI tool from vendor Oco, which takes all of Casual Male's data, builds and maintains a data warehouse for it offsite, and creates real-time reporting.

Today, Hernreich and Casual Male's merchandise planners and buyers have access to easy-to-consume dashboards chock-full of catalog data: "What styles are selling today? How much inventory are we selling today? Where are we short? Where do we need to order? How are we selling by size? What are we out of stock in?" he says. "All of these basic questions, in terms of running the business—that's what we're learning every day from these reports."

And those annoying trips to the printer have ended.

Fears Linger

Casual Male Retail Group is part of the small (but growing) percentage of businesses using on-demand or software-as-a-service (SaaS) BI tools, which can be deployed at a much faster pace and with much less initial cost than traditional on-premise software installations.

"To go from nothing to a fully automated system in a matter of weeks is an incredible sell for any company—large or small," says Scott Cohenford, a senior analyst at RapidAdvance, a provider of cash advances to business, who led his company's efforts to purchase Business Objects' OnDemand platform.

Note that Cohenford is not an IT person by title or pedigree (he has an accounting and finance background): Ease of use (setup, integration, training) is a major selling point to on-demand BI customers. "I was tasked with reviewing the different options out there, seeing how quickly we could move forward with the solutions and do so at a low cost and automate as much as possible," Cohenford says. "And that's what pushed me into the SaaS world's BI tools."

But a nagging majority of companies don't share Cohenford's sentiments, despite loads of publicity and the success of SaaS pioneer Salesforce.com. A Forrester Research survey of just over 1,000 technology decision makers found that adoption of SaaS and

"How are we selling by size?
What are we out of stock in?
That's what we're learning every
day from these reports."

—Dennis Hernreich, COO and CFO, Casual Male Retail Group

on-demand applications in large enterprises is now at just 16 percent. Aberdeen Group research showed that only 10 percent of companies of all sizes used some form of BI analytics tools through a third-party service provider, says David Hatch, research director of BI at Aberdeen.

The Forrester survey noted the frequently cited barriers to higher adoption rates, including concerns around integration, customization, security and total cost of ownership.

Of course, those concerns don't go away for on-demand BI applications, but several recent macro trends have pushed companies to take another look.

One is the long-term effects of software industry consolidation and BI vendor upheaval in 2007, which has affected the plans of more than 100,000 customers of the established BI vendors, according to Hatch's research.

The Need for Speed

Even traditionally on-premises vendors, like Business Objects and Cognos (now owned by Oracle) are starting to offer on-demand software, responding to several pure-play, on-demand BI vendors. "The increasing speed, power and availability of on-demand solutions are narrowing the performance gap between on- and off-premise application implementations," Hatch notes.

Business Objects leads the on-demand BI space, with 70,000 deployments. But smaller vendors, such as Oco, SeaTab, LucidEra, Dimensional Insight and OnDemandIQ, are nipping at its heels—offering both on-demand suites of reporting and analytic tools

and targeted applications that solve specific customer needs and are delivered in weeks, not months or years.

Hernreich describes Oco's integration work with Casual Male's systems as "unobtrusive," taking roughly six to eight weeks to complete. "And it worked on day one," he says.

Not Just for SMBs

Vendors offering SaaS applications have made names for themselves by serving midsize and smaller companies, which typically don't have the IT resources to dive into a full-fledged on-premises rollout.

"Mid-market companies lack the sunk costs that large enterprises have already invested in a BI infrastructure. They have similar requirements to integrate, report and analyze data from numerous systems, but they don't have the staff or infrastructure to pull it off," writes Gartner Analyst Kurt Schlegel in a February 2008 report. "Plus, mid-market companies are often in volatile business cycles, where revenues could grow quickly or come crashing down."

But larger companies are also starting to test the on-demand waters with targeted applications. Welch's, the \$654 million consumer-packaged goods manufacturer, recently installed an on-demand BI application from Oco. In January, Welch's rolled out a transportation logistics BI application that serves up analytic insights from Welch's systems and those of its distribution partners in a way that its Oracle BI software (installed in 2007) could not.

"We're essentially capturing every element—from the customer orders we



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receive, to bills of lading on every shipment we make, as well as every data element on every freight bill we pay," says Bill Coyne, director of purchasing and logistics for Welch's. "We dump them all into one data warehouse [maintained by Oco], and we can mix and match, and slice and dice, any way we want."

Coyne says that Welch's tries to ship its products five days a week out of its dis-

tribution center. "But we found ourselves just totally overwhelmed on Fridays," he says. "We would complain, How come there are so many orders on Friday?"

Training users on Oco's on-demand BI application "is equivalent to training someone to use Google."

—Bill Coyne, director of purchasing and logistics, Welch's

tribution center. "But we found ourselves just totally overwhelmed on Fridays," he says. "We would complain, How come there are so many orders on Friday?"

It turns out that Coyne's team was doing it to themselves. The data aggregated into Oco's data warehouse, and sliced and diced by Coyne's team, revealed areas that needed an improvement in efficiency, which they have now fixed. "Just trying to steer away from Fridays provides us a huge benefit," Coyne says. "We can look at the number of orders per day, the number of orders by day per customer and overall customer order patterns."

Welch's spends more than \$50 million each year on transportation expenses, and the Oco BI application and reporting features have become critical in a very short period of time, he says. "We literally can't go any amount of time without knowing this stuff," Coyne says.

In addition, training users on the new application is "the equivalent of training someone to use Google," he notes.

IT's Role Changes

As to the payback, it's been "almost instantaneous."

With easy-to-install on-demand applications, IT's role as gatekeeper is minimized, say analysts.

However, even the most enterprising line-of-business executives have to realize they need IT's buy-in and support

for on-demand BI applications. Welch's had just finished a four-year, \$31 million project installing Oracle's ERP applications in-house, which included a BI application, and IT was understandably "concerned" about Coyne's new external application needs, he says. "They wanted to make sure we were doing the right thing," Coyne says, "but even they said that this particular area of Oracle does not have a solution for it. It wasn't much of a debate at all."

One major sticking point for IT usually involves the security of corporate data as it moves outside of IT's control. But executives and analysts say that the potential business benefits of quicker access to BI data, coupled with the robustness of third-party providers' security mechanisms, may outweigh concerns. Casual Male's Hernreich says he was initially "nervous about the information being offsite," but that the final analysis showed the business benefits of an SaaS BI solution were too big to ignore.

And for smaller companies, well-established vendors' security controls are often a benefit, not a concern. **CIO**

Who's Who in BI

Want to know more about the on-demand players? See **NINE B.I. VENDORS TO WATCH** at www.cio.com/article/203900.

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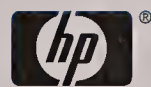
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The Secret to Successful Project Teams

It doesn't take a project management guru to manage complex projects. Instead, give responsibility to the people who know best how to do the work.

Your IT department is taking on a complex project—a new application with lots of data integration challenges, a Web front-end, a new database-management system platform, dedicated servers in the data center and field-office training during the roll-out, along with issues of change control, help-desk set-up and contracting for ongoing support-services.

This project needs world-class teamwork and project management, both in the proposal and the implementation phase. Based on past experience, applications developers don't seem able to pull all the pieces together and manage the entire project. Too often, IT struggles to deliver large projects.

Should Your Project Manager Come from the PMO?

Your instinct might be to appoint a “super project manager” from your project management office (PMO). Many IT organizations include within their PMOs a pool of project management experts who serve as project managers for tough projects such as this one.

Language is very important here. The term “project manager” means the individual who's account-

able for delivery of the project—in this case, a new application. Translating this into the language of business, the client “buys” an application from the PMO, which in turn gets help from various other managers (such as applications engineering, Web engineering, database management system engineering and server engineering).

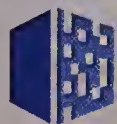
In other words, the PMO is selling to clients (whether or not money changes hands) a product (the application) that is in another group's domain. When projects are difficult, the PMO takes over delivery of other managers' lines of business.

This approach leads to a lack of clear accountability—the opposite of good project management practices. Who is really responsible for the end-to-end delivery of applications? How do clients know where to go for what, and whom to hold accountable



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for results? If the PMO really is the project manager, is its staff qualified to make decisions such as what help they'll need from other groups, which development methods and tools to use and key design decisions throughout the project? Remember, PMO staff may be project management gurus, but they're not experts in applications engineering. Thus, they're not qualified to make technical decisions.

Sure, PMO staff is quick to point out that they get input from others. But the project manager is accountable for delivery of the project, so the project manager has to have the ultimate authority to make project-related decisions. This is not vesting authority with the people best qualified to wield it.

Furthermore, the manager responsible for running applications engineering isn't really in control of his or her business. The applications development manager cannot really be empowered when the PMO occasionally takes over and delivers its products.

If you were the applications development manager, how can you be sure the project manager will make decisions in the best interests of applications development business? Wouldn't it be tempting for the PMO project manager to cut corners, get the project done on time and get the credit?

And perhaps she would accept undue risks with regard to issues like future maintainability, supportability, operational efficiencies and integration.

Clearly, project management gurus are critically

important on large, complex projects. But making PMO staff the accountable "project manager" raises as many questions as it settles.

Look to the Market for a Better Approach

Excellence in teamwork and project management requires neither confusing accountabilities nor disempowered entrepreneurs.

"But," you ask, "in the past, IT struggled with big, complex projects; how can we address that problem?"

Consider the root cause. Most teamwork problems aren't due to a lack of understanding about what skills are needed on the team. Most applications developers know whose help they need to execute their project, and know exactly what services and subcomponents they need to buy. The real problem is the lack of a process within the organization for getting that help. The difficulties may also stem from a lack of the discipline required to be confident that others will deliver their pieces of the project without lots of oversight.

Similarly, most problems in project management are not

Project management gurus are important on large, complex projects. But making PMO staff the accountable raises as many questions as it answers.

due to a lack of skill in managing projects. The mistake is to expect one person to manage and control the activities of a large project team. Consider the challenge of managing a very complex project, like building a car. If you had to depend on one person to manage every aspect of such a complex project, you'd be in jeopardy. But fortunately, there is another way.

Breaking project management into chunks eliminates the need for those scarce super-project managers who can control what every individual throughout this long supply chain does every hour of the day. Applying this approach within IT organizations is equally straightforward. There are only three rules:

First, everybody is the prime contractor for products and services within his line of business; nobody sells products or services outside their line of business.

Second, the number-one job of a prime contractor is to line up needed subcontractors. This involves working with peers to gain commitments for deliverables, not people.

Third, everybody is accountable for delivering their products and services as promised.

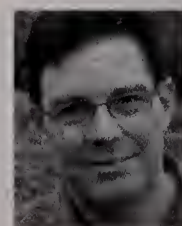
How It All Plays Together

Now back to our original example. The client wants to buy an application. Regardless of complexity, it's clear that the prime contractor is the applications development group.

Both at the proposal and the implementation stage, the prime contractor subcontracts for all needed components—to other applications groups for data feeds, to the Web content management system group for the front-end, database management system engineers for the data model and so forth. And let's not forget a project manager can subcontract to the PMO for project planning services, project management advice and project data administration.

By getting the processes right, an IT organization can have excellence in teamwork and project management without the need for disempowering super-project managers. Market-based processes that identify a prime and subcontractors, combined with the practice of subcontracting for deliverables rather than just people, make large-scale project management within everybody's capabilities. **CIO**

N. Dean Meyer writes the Beneath the Buzz column on CIO.com. Contact him at dean@ndma.com. To comment on this article, go to www.cio.com/article/193050.



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Is CIO for Hire the Right Job for You?

Interim CIOs find there are challenges to parachuting in and setting things right when a company needs a temporary IT leader

CIOs are calling me. A lot. The country's economic instability has them nervous and thinking about their next job. Most are set on another CIO role and some are ready to move into "the business."

But a significant number are intrigued by the possibility of an "interim CIO" or "CIO for hire" role. They would like to join a firm whose clients are global corporations with messed-up IT organizations in urgent need

of a temporary seasoned leader. They would enjoy, they tell me, the diversity of client company engagements and the challenge of parachuting in and setting things right.

Who wouldn't want an endless array of exciting new opportunities and a chance to play the hero? Of course, it's worth remembering that an interim role comes with its own special challenges. To paint a complete picture of what such a job encompasses, I spoke with three former CIOs who joined firms that offer interim CIO services as a part of their overall IT and management consulting umbrella. They offer some guidelines for the whys and hows of making the move.

1. Why Do It?

Change is your steady state. Lisa Metcalfe had an

epiphany of sorts reflecting on her career as CTO at Avista Advantage, CIO at Washington Gas and VP of IS at National Wildlife Federation. "What I enjoyed most about each role took place during the first six to 12 months on the job," she says. Once she had worked through that initial period of change, the work became less interesting. "I wanted to position myself so that the most challenging part of the job would be a regular part of my career."

After testing the waters by consulting on her own, she joined Tatum, a large consulting firm that also provides interim CIO services. At first, Metcalfe worked directly on IT engagements. She then became regional practice leader, responsible for business development and the health of the practice.

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internal executive, you spend a lot of up-front time on relationship building because you are there for the long term," says Metcalfe. "The interim role is freeing because you can focus directly on the work right away."

Metcalfe acknowledges that as an interim CIO, you need to build relationships as well. But you're not there for the long haul. And, in a consulting engagement, "you have to make project work your top priority; if there is a list of projects, you have to start working through it pretty quickly."

2. What to Ask Yourself Before You Dive In

Can I handle a shorter time line for success? Steve Faas's experience includes 18 years in IT leadership roles at GE and then four years as CIO at ITT, a \$7 billion industrial manufacturing company. In 2007, he joined AlixPartners, a global restructuring, consulting and financial advisory firm that includes IT leadership engagements as one of its offerings.

"I spent 25 years in the corporate environment where we tended to think in terms of years, not weeks or days," he says. "At AlixPartners, we may be helping our client develop a three-year plan, but we are measured on 30 days of delivery." The focus from the long term to the short run can be jarring for executives unused to it. Be sure you are comfortable with the shift before you sign on.

Can I be a rainmaker? "When you're an internal CIO, you are constantly selling ideas, projects, a vision or the need for a budget change," says Faas. "But in this role, you are selling to develop more business." In addition to providing exemplary service on client engagements, as a consultant you

will be asked to develop new business over time without the support of a dedicated sales team.

Faas has found that inviting his colleagues with more sales experi-

ence to new client meetings is a great way to secure the engagement and develop his own business development skills. His advice: "Choose a firm that has a mix of people with consulting and operating backgrounds. You can draw on each other's experience to present the best team to the client."

Can I handle the travel? Dennis Conley, formerly CIO of Computer Data Systems, joined Transition Partners, an IT consulting firm to large global companies in 1998, and is now managing partner. "I knew the opportunity looked right for me and that the only impediment was 85 percent travel," he says. "But we decided to align it with our family life, like planning to spend the summer in Marino del Ray, since that's where I would be working. And my kids love the miles I get

Who wouldn't want a chance to play the hero? Of course, it's worth remembering that an interim CIO role comes with its own special challenges.

for their own travel!"

The CIOs I spoke to could not overstate the amount of travel associated with this work. As Faas put it, "When you're not on the road it means you haven't won the business."

3. What Are Consulting Firms Looking For?

Knowledge of technology. As managing partner, Conley is responsible for recruiting new members to the firm. While a business mind-set and relationship-building skills are critical, he also requires a working knowledge of new technology. "Can you talk about Web 2.0? Can you talk about virtualization?" he asks. "I'm not looking for people who are pure technologists but if you are talking to me about mainframes, that's a red flag. I don't want my customers telling me I have a dinosaur working for the firm."

Big company name. While Conley has hired many successful former CIOs from companies that are not large or well known, bigger is usually better. "While the big-name background is not essential for success in the firm, it does help us to attract new business."

Comfort with an advisory role. Jay Marshall is a managing director of AlixPartners and colead of the Information Technology Transformation Services practice. He, like Conley, hires new additions to the firm. "We do like to see people who have had the CIO title in the past," he says, "but we'd also like to see some consulting experience, where they've shown their ability to be in an advisory role. Some CIOs want to say, 'Get out of the way and let me do it,' when they have to work hand in hand with the client."

Depth and breadth. "The ideal profile is someone who has come from a company larger than \$250 million, has had both business and financial responsibility, and can go both deep and broad with technology," says Marshall. "It is great to have an SAP expert, but it is better to have someone who has seen multiple ERP environments. They need to be plug-and-play compatible."

Some CIOs transition beautifully into interim CIO work; others long to return "home." If you have any reservations about the travel, the selling and the advisory role, do a bit more self assessment before taking the plunge. **CIO**

Martha Heller is managing director of the IT Leadership Practice at the ZRG, an executive recruiting firm. Reach her at mheller@zrgroup.com.



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IT's leadership ranks are thinning as retirement, outsourcing and a tight talent supply take their toll. To bridge the gap, CIOs must actively cultivate the next generation of leaders. But it takes dedication to managing people, not just information.

FINDING TOMORROW'S LEADERS TODAY

BY MICHAEL FITZGERALD

» SPECIAL REPORT

How to Be a Successful Mentor	47
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Five Things I Wish I'd Known When I First Became CIO	50
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2008 Ones To Watch Awards	58

Barbra Cooper started as a CIO when the position was still called "VP of IS." In her more than 30 years in IT, she's seen the role become ever more strategic; now the CIO is in the unique position of being the C-level officer who can "see across the entire enterprise."

The CIO for Toyota Motor Sales USA thinks tomorrow's CIOs will be even more strategic and influential. But Cooper also worries about the future business and technology changes they face. "The next 10 to 20 years are going to be challenging," she says. As she talks about the challenges that lie ahead, the question arises: Where will the IT leaders come from to tackle them?

It's a question more and more IT executives are asking themselves. CIOs are moving up and out. The first

Reader ROI

- :: Why a leadership gap is emerging in IT
- :: The importance of an active succession plan
- :: Shadow programs, fast tracks and other tactics

full-career CIO generation is beginning to retire. Others are taking on broader responsibilities or moving out of IT and into other business leadership roles as the position evolves beyond its technology roots (see “How CIOs Benefit From Dual Roles,” at www.cio.com/article/336813). In fact, CIO’s “State of the CIO 2008” report (see www.cio.com/article/163700) found that 56 percent of CIOs surveyed say long-

Many CIOs don’t know who would lead IT if they left tomorrow. That’s not surprising. Just 17 percent of respondents to “The State of the CIO 2008” survey cited people development as a critical leadership competency.

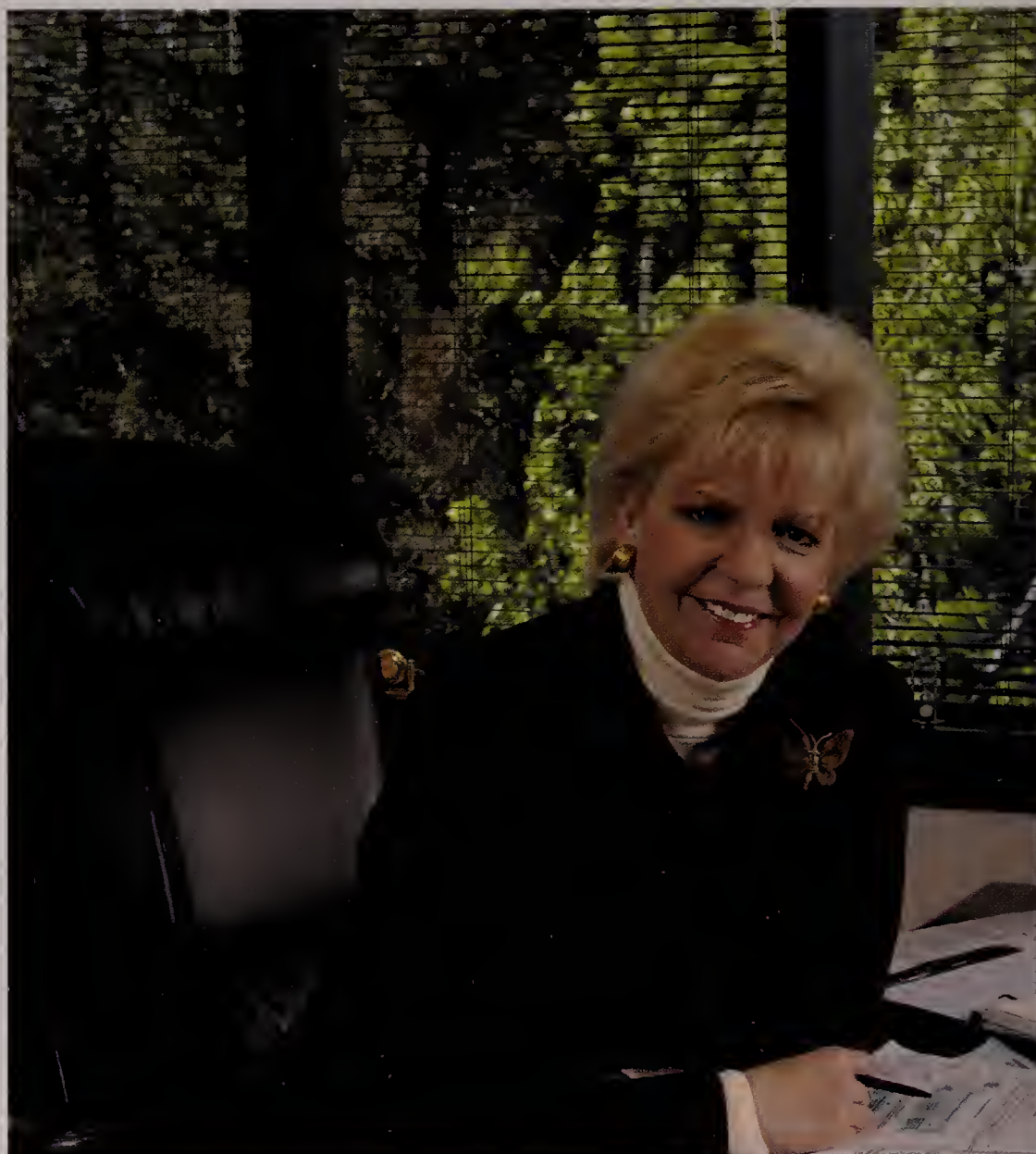
term strategic thinking and planning is the executive leadership skill most critical in their current role, followed by collaboration and influence (47 percent) and expertise running IT (39 percent).

At the same time, many CIOs don’t know who would lead IT if they left tomorrow. When you consider that just 17 percent of respondents to “The State of the CIO” survey cited people development as a critical leadership competency, that’s not surprising.

Demographic factors are also at play. The Baby Boomers are bowing out: The first ones reach retirement age in 2011. Fewer young people are pursuing IT careers: Just over 8,000 received a BS in computer science last year, according to the Computing Research Association.

The skills to be CIO have also changed as the role has shifted from technologist to business strategist. It used to be that “we could afford to let the business tell us what they wanted us to do, be good at delivering it and keep our jobs,” says Cooper. “Now, the physics and velocity of business and its demands mean you can’t afford to wait until something happens.”

Indeed, CEOs now look to the CIO to act more as a strategic business leader and less as a function head. TAC Worldwide CEO Robert Badavas says he seldom speaks about technology



With an eye on the future, **Barbra Cooper**, CIO for Toyota Motor Sales USA, crafted development plans for her managers detailing the skills they need to acquire.

with his CIO; instead the two talk about “shaping the business value to our clients,” he says. To be successful, he notes, the CIO needs to understand the value proposition of the business. “By staying in the silo of technology, HR, accounting or any other,” says Badavas, “you’re not going to be as valuable to the business.” Or to the CEO.

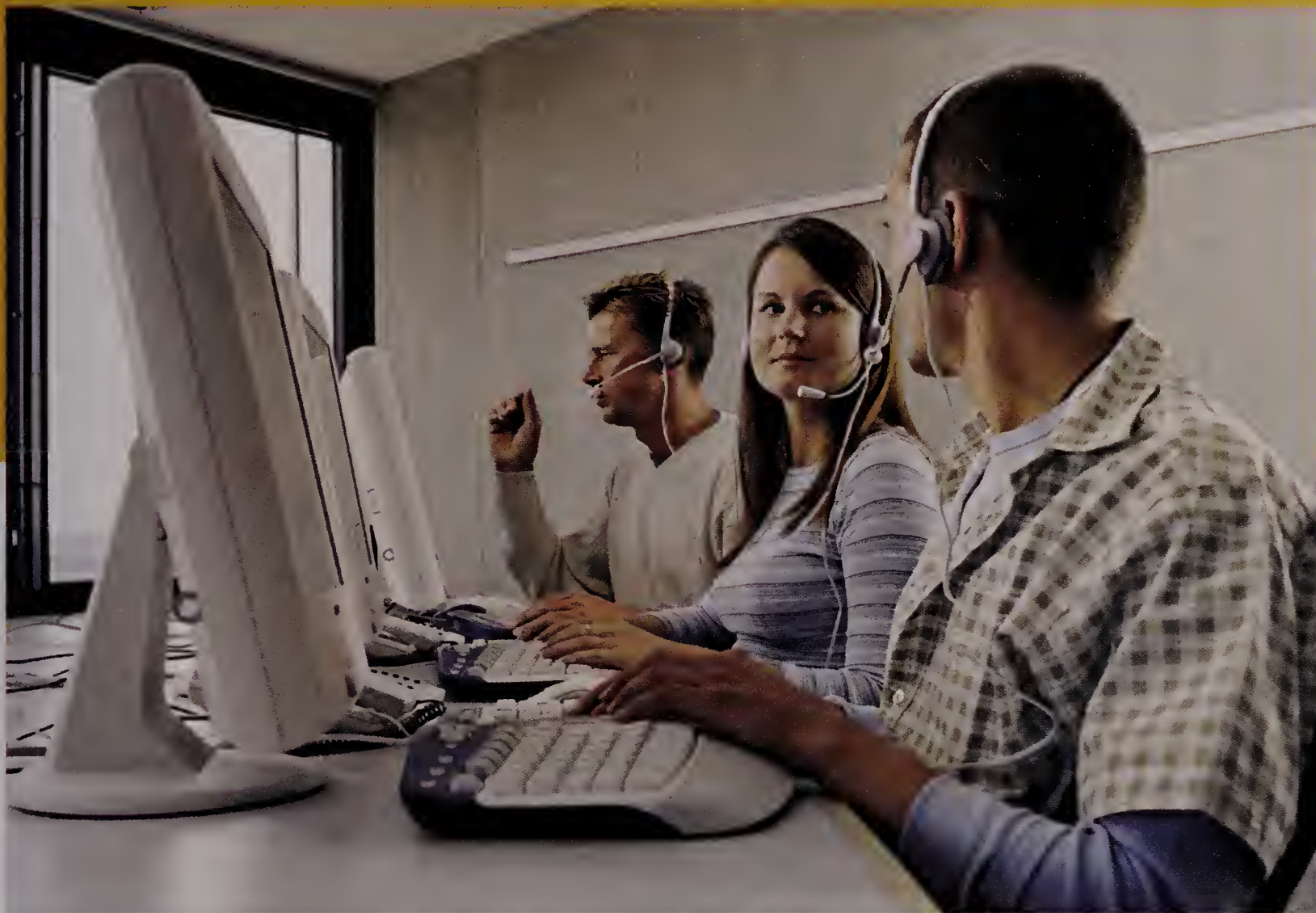
With all that in mind, CIOs today must groom not only competent replacements for themselves but also next-generation IT leaders who are “business ready” and able to succeed in a more IT-intense and integral business environment, say leadership specialists.

“There’s a skills gap that’s been identified between CIO and one or two levels down,” says Harvey Koeppel, executive director of the Center for CIO Leadership, which is funded by IBM. He points to managing talent, business process transformation and cross-organization leadership as skills that CIOs need to develop in their staff.

Future IT leaders know they need these skills to ascend the

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Jonathan Kass, CIO of Veterinary Pet Insurance Co., is concerned about the challenges an IT leadership gap poses to fast-growing companies like his own, which need strong leaders to help them innovate and compete.



ranks. The ability to manage up, build relationships and understand business strategy were deemed critical for professional advancement in a survey of the winners of the 2008 Ones to Watch award, presented annually by *CIO* magazine and the CIO Executive Council, to recognize IT's rising stars and the CIOs who've nurtured them. (See "Ones to Watch," Page 58.)

Unless today's CIOs take the time now to invest in tomorrow's leaders, what looms ahead is a potential leadership void that

threatens the value proposition of IT, the legacy of the profession and the very health of business and the overall economy.

THE DIMENSIONS OF THE CHALLENGE

CIOs need to figure out the future of IT leadership in an industry where the future seems to change every day. "IT's relationship with the business is changing, and in 10 years the job you

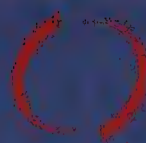
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do today won't be the same as you do then," says Phil Murphy, a principal analyst at Forrester Research.

Business is now digital—no company can run without effective technology strategies. Those that truly manage their information well really do gain advantages over the competition. That means effective CIOs have a seat at the head table.

The shift in business expectations means that CIOs have better job security than in the past. But it also takes longer to find good ones with the right mix of business and technical know-how. For example, Pete Walton is in his second stint as CIO at Hess Corp. The petroleum products company coaxed him out of

ment in the next two to three years. Barbara A. White, CIO and associate provost at the University of Georgia, says she lost 90 years of experience in April when three staff members retired, and has a bulge of staff likely to retire in the next 10 years.

The situation facing IT reminds Jonathan Kass of his days in the aerospace industry. Kass, vice president of operations and CIO at Veterinary Pet Insurance, started his career as an aerospace engineer in the 1980s. As a new hire, he found that he was mostly reporting to people in their 40s and 50s. An entire generation of leaders was MIA, their ranks thinned by the layoffs that swept the industry in the 1970s to mid 1980s.

"We have this triple threat. The Boomers are retiring, young people are not going into IT and fewer people are getting [technology] degrees." —ROBERT D. SCOTT, FORMER VP OF GLOBAL BUSINESS SERVICES, PROCTER & GAMBLE

retirement in 2005 when its CIO at that time left. Hess wanted someone who could take its Information Services "to the next level," says Walton. Among other things, that meant finding a new IT leader who could "fuse with the business" and create a culture of innovation.

"CEOs want someone who's business savvy and can figure out how you can use technology for the business. Trying to find that hybrid person is hard," says Diane S. Wallace, CIO for the state of Connecticut and a judge for the 2008 Ones to Watch Awards.

It will only get harder to find them, just for demographic reasons.

"We have this triple threat of labor shortage: The Boomers are retiring, young people are not going into IT and fewer people are getting [technology] degrees," says Robert D. Scott, who in February retired as Procter & Gamble's vice president of Global Business Services. Scott says he noticed a drop in IT interest during the technology bubble of the late 1990s. Then the rush to outsourcing created a cloud around U.S. IT jobs. That pall persists despite strong job growth in IT, which is expected to add more than 200,000 jobs by 2016, according to the Bureau of Labor Statistics.

P&G is a case in point. It outsourced about half its IT staff in 2003, but IT employment is now back to the level it was five years ago. Scott says that this is because the company outsourced its commodity IT, and "internal IT moved up the food chain, and is creating more and more business value."

Scott says P&G continues to attract strong candidates for IT jobs. But the hiring pool is not as deep as in years past. Plus, P&G believes strongly in promoting people steeped in its culture. It worries about keeping its Generation Y employees.

The triple threat is already creating an IT brain drain. Wallace says 40 percent of her staff of 518 will be eligible for retire-

Kass sees the same phenomenon emerging in IT in the wake of the job insecurity sparked by outsourcing. And he worries about what it means for fast-growing companies like his own that need strong leaders at all levels to innovate and compete. "You're talking about hiring very junior people who won't be ready for leadership," he says.

How can today's CIOs help their companies bridge this leadership gap? There are ways to cultivate the next generation of leaders. But it takes dedication to managing people, not just information.

NOTHING SUCCEEDS LIKE SUCCESSION

Toyota's Cooper is dedicating time to prepare her organization for the future. That future includes being as proactive as possible, staying ahead of the business needs. It also means a commitment to active succession planning. (Read "After You, Who?" Page 52.)

Two years ago, Cooper sat down for 90 minutes with each of the direct reports of her direct reports, 27 people in total. Each meeting was an open coaching session structured around her ideas of what IT leaders will need to be in 10 years. She then crafted a three- to four-page letter for each team member, detailing the capabilities she wanted them to develop and a plan for showing how they should achieve them. Her direct reports received a summary of what she sent to their reports.

Cooper didn't stop there. She's pushing her senior management team to hold similar leadership coaching sessions with their staff. She herself has fireside chats twice a quarter with the next tier of managers, bringing in five or six of them at a time to talk about management challenges and the need to think strategically about business and IT.

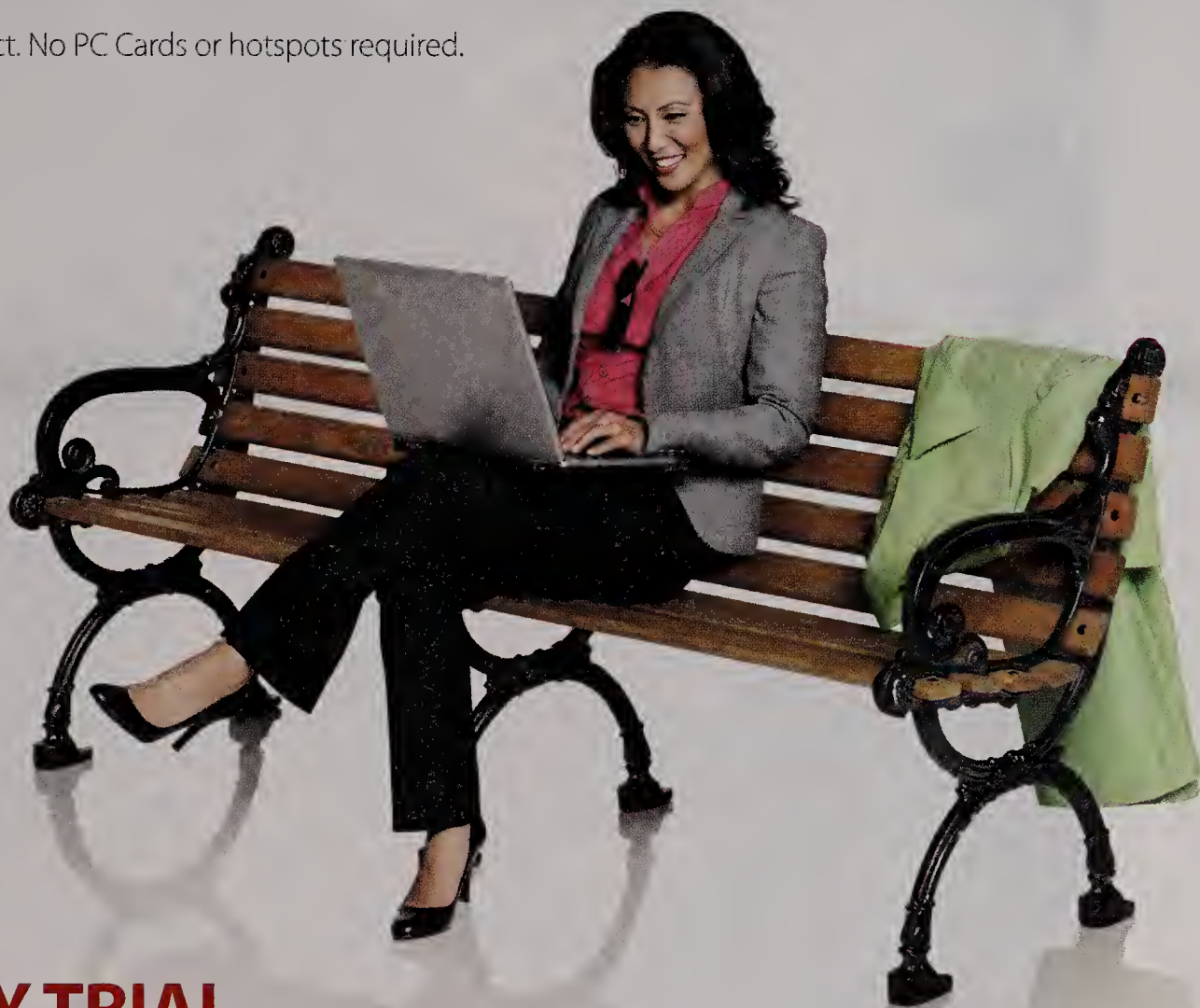
She also rotates high-potential IT staff into the business, to prime them for a broader understanding of the company.

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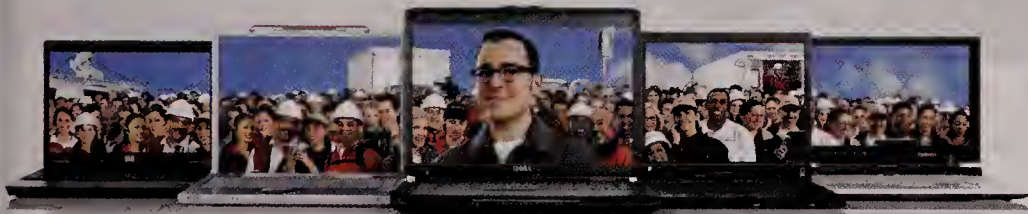


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To grow leaders, **Barbara A. White**, CIO of the University of Georgia, created a robust mentoring program. In the works: a shadow program to show staff what it's like to be in a senior leadership role.

She sends them to both internal and external training, such as to Boston University's "Pocket MBA for CIOs" and Gartner Group's CIO boot camps.

Cooper says she spends about 30 percent of her time on coaching and mentoring. But Cooper believes it's been worth it. "It's subjective...but I think the quality of decision making and general performance is quite improved," she says. By the same token, Cooper adds that "if someone had done this for me when I was early in my career, and I had insight into how much

work I still had to do or what my strengths were, that would've been a huge thing."

MENTOR EARLY AND OFTEN

Getting attention early in his career was a boon for VPI's Kass. "I've had the benefit of really solid managers who took an interest in me," he says.

Kass became VPI's CIO in October 2005 after 10 years at PacifiCare Behavioral Health. There, he worked in a variety of

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IT jobs under then-CIO Kerry J. Matsumoto. Matsumoto delegated aggressively. He gave Kass opportunities to do planning, budgeting, forecasting and eventually to function in many ways as the CIO. Matsumoto developed this leadership approach after working for a CEO who believed strongly in coaching and mentoring, and who had sent teams including Matsumoto to the Center for Creative Leadership. There, Matsumoto learned to do things like give 360-degree performance reviews, where he would interview peers, direct reports and business-side workers as part of the process of preparing his employee reviews.

"I coach all my direct reports," says Matsumoto, now CIO at Caremore Health Plan. "Sometimes you're coaching them to get rid of something they didn't do well. In Jonathan's case it was mentoring—coaching to get him to the next step." (Read "How to Be a Successful Mentor," Page 47.)

Kass found Matsumoto's 360-degree reviews extremely helpful, and he has adopted them as a way to cultivate leadership among his own workers. He also has followed Matsumoto's practice of heavy delegating. Kass says he pushes whatever he can down as far as it can go within his 40-person staff—administrative tasks, strategy committee roles, decision making, even budget planning, because it gives IT people a sense of how the business makes decisions, and it helps them to become businesspeople themselves.

Delegating is also an effective tool in recruiting, Kass says. He can't tell potential hires that they'll only be working on cutting-edge projects, "But if you say, 'no position is isolated—you'll see how technology helps get jobs done in all aspects of business, and you'll be as involved as you want to be,'" it can help seal the deal.

He confesses that his direct reports sometimes would rather he didn't push things down as far as he does. But, says Kass, "Leadership's job is to groom that next generation. If you're not doing it, you won't get there."

"Mentoring is a vital aspect of human capital development. It provides value to both the mentor and the mentee," agrees Koeppel, of the Center for CIO Leadership.

FOLLOW THE LEADER

White, the CIO and associate provost at the University of Georgia, is addressing the potential leadership gap in her IT department using a variety of strategies, such as a mentoring program. The program includes a mentorship committee, a mentoring handbook and identified mentors to assist middle managers. White calls the program a powerful tool to improve performance, retention, morale, and career progression.

Another tactic, now in the planning stages, is the creation of a shadow program, where IT staff can follow White and other senior IT managers to get a sense of what it's like to be in a leadership role. She got the idea when she was CIO at the University of Utah, where the school's president had a shadow program. "A lot of people on my staff don't know what a CIO does," she says. In the shadow program, potential leaders will get to follow her for a day or two, perhaps once a month, to see what her job is really like. They'll also follow her senior managers. Thus, they'll see different parts of the IT puzzle.

"It goes back to this whole issue of building the staff, their level of expertise, of keeping good people. We have quite a few people who want to move on to the next level, and we need to help them better understand the organization," White says.

"Shadowing is an absolutely valid approach" to developing a new type of leader, says Forrester's Murphy.

CREATE A FAST TRACK

Procter & Gamble has a corporate culture that promotes from within. But it saw that good technical talent was getting harder to keep, and it also understood that Gen Y employees expect to change companies

Building Leadership Skills

The CIO Executive Council's Pathways **LEADERSHIP DEVELOPMENT PROGRAM** features biweekly seminars led by top CIOs. On June 25 at 11:30 a.m. ET, Mark Brown, CIO of General Growth Properties, will share how he leverages his business process skill set to facilitate change at this \$3 billion real estate company. Register at <https://www.cioexecutivecouncil.com/public/teleconferences>.

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"It goes back to this issue of building the staff, their level of expertise, of keeping good people. We have people who want to move on to the next level, and we need to help them better understand the organization."

—BARBARA A. WHITE, CIO, UNIVERSITY OF GEORGIA

frequently. To combat both challenges, it blazed a new, faster IT career path for its younger workers.

IT leadership adopted an accelerated development program, as a part of the career path, says Scott. It would place a new set of top performers in a Career Executive Development Program, designed to provide them exposure to high-level IT executives and assignments to help accelerate their growth. It comes with one caveat: If you don't perform, you'll be looking for another employer. It's a modified version of what's in place in the company's fabled brand management department.

"We wanted to signal that we were very serious about growing people, and were willing to invest extra time and energy" in them, he says. The program is only two years old and is too new to have clear results (no one, for instance, has been asked to leave yet).

P&G also created what it calls "The CIO Circle," which rewards longtime IT people who have mastered an area of technical expertise. This "master's" designation allows P&G to acknowledge their status as knowledge leaders even if they are not on the management track.

Rewards programs encourage employee loyalty, says Laurie Orlov, a consultant and principal of LMO Insight. Fast track development in particular should help companies cultivate Gen Y leaders. And with so much training and management exposure, they have every reason to stay, she says.

MAKE ROOM AT THE TOP

CIOs who are serious about developing leaders in their group have to be willing to invest time in their people and to give them oppor-

tunities to grow, even if that means letting them fail sometimes. It might also mean getting out of their way when the time comes.

Hess Corp.'s Walton says that his goal at all of his jobs has been to identify and develop replacements for himself. "You do that by creating opportunities for them, you make them look like leadership heroes in the eyes of their business and let them take all the glory," says Walton, who is 63 and retired from Hess for the second time last month after the company named Jeff Steinhorn, who served under Walton, as its new CIO.

Like most CIOs who aim to develop their staff, Walton has used a multipronged strategy for helping people along—he mentors, he provides role models and he moves staff into new opportunities. He invests heavily in education—selected top managers were sent to a Harvard Business School executive program, and IT has two memberships to the BSG Concours Group, a strategy and executive education firm.

He sees the coming leadership challenge as a plus, not a minus.

"There is a gap, but it's an exciting one to fill," says Walton. For one thing, he thinks the blend of experience and technical savvy available when you mix Baby Boomers and Gen Y is a powerful one for companies that work to bring these generations together. He is talking with Hess about how to do it and may want to take on such a role in the future. But now that a new IT leader is in place at Hess, he can relax for a bit. "I'm going to get my handicap down," he says. **CIO**

Michael Fitzgerald is a freelance writer. To comment on this article, go to www.cio.com/article/341067.

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HOW TO BE A SUCCESSFUL MENTOR

**Mentoring matters when it comes to fostering leadership.
But achieving success depends on how you go about it.**

BY KIM S. NASH

Lance Wilson traces a 17-year history of mentoring in his life, as both a mentor and a mentee. From each one of those relationships, he says, he carries a treasured lesson.

One of the most memorable he learned was in the 1980s and 1990s, when he was rising in IT at Pillsbury under mentor Carl Wilson (no relation). Carl Wilson, now EVP and CIO of Marriott International, is a member of the CIO Executive Council (CEC) and a judge of the 2008 Ones to Watch Awards, a program conducted by CIO and the CEC that honors future IT leaders.

"I remember Carl talking to me about how my career would be determined by my PIE: performance, image and exposure," says Lance Wilson, now CIO at Assurant Health, a Milwaukee insurer. Carl Wilson credits the idea to Pillsbury colleague John Hammitt.

To enhance his management skills, Lance Wilson learned to ask a lot of questions. "The probing kind, not the informational," he says. By doing that—whether you face a customer, vendor, partner or adversary—a CIO learns how to look at himself and his project or idea more objectively. "There's a Greek word, *ekstasis*, for standing outside yourself. It's very helpful," he says. This also helps polish your image, he adds, and exposes you to other people and points of view.

"I've used this many times to help facilitate understanding of dramatic change, which every CIO has to lead at some point," he says.

"To create strong, well-performing organizations, you have to focus on individuals," says Hammitt, who was also director of information management at Morton-Thiokol and VP of Information Systems at United Technologies. "Executives have got a

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- :: Why mentoring should be higher on your agenda
- :: How mentoring IT staff cultivates their leadership skills
- :: Tips for doing it right



responsibility to develop strategy and oversee execution but more importantly, ensure that the team gets stronger every year.”

Wilson was lucky to have mentors to guide him: Just 41 percent of CIOs put time into developing the IT talent within their ranks, according to our 2008 “State of the CIO” research. Yet the career trajectories of CIOs who have been mentored illustrate how, when the relationships work, mentoring pays off for the people and for the company. Seventeen of the 20 Ones to Watch honorees this year overwhelmingly rated mentoring and one-to-one coaching as very effective or extremely effective in their personal success; 15 winners also described their CIO as “extremely committed” to their career development.

Carol Mullins, a 2008 Ones to Watch honoree, credits two strong mentors with helping her career ascension to director of submission processing at the Internal Revenue Service. Recently, Mullins led the delivery of one of the IRS’s modernization projects, and she manages a \$113 million budget. Her mentors, she says, “gave me the nudge that I sometimes needed to take a step I wasn’t sure I could take.” Mullins hopes to be a CIO someday, and she mentors others inside and out of IT.

Mentoring matters much in the professional, and even personal, lives of many technology executives, says Jeri Dunn, CIO of Bacardi. “There are so many times that people get overlooked by their manager,” she says. “That’s wrong.”

Dunn, who has been CIO at Nestlé USA and Tyson Foods, is a founding member of the CEC and of the Network for Executive Women in Arkansas. She says she sets up a mentoring program wherever she works.

“People need to have that kind of attention. They need to have someone they can

FIVE THINGS My Mentor Taught Me

IT executives share the leadership lessons that shape their success

1. Never stop asking questions.

“When I was working for the U.S. Navy, an old chief petty officer told me one day that if normally rational people are behaving irrationally, that means you don’t have all the information they do. I was complaining about something and he was quite clear with me that I was a young kid and I didn’t understand. Ask a lot of questions.”

—Lance Wilson, CIO, Assurant Health

2. Be decisive.

“I had a wonderful mentor who told me the speed to make a decision is an important quality of an executive. When you move from being an analyst and developer—someone who expects to have all the data before making a decision—up to executive, you have to understand your gut feelings play more of a role. You reach a level where you’re being paid to rely on your experience. If you wait for every single data point, every time, you may be seen as indecisive or weak.”

—Robert Urwiler, SVP and CIO, Vail Resorts

3. Acknowledge what you don’t know.

“I was in my late 20s working as a corporate IT manager under the CIO, at Melville, a retail conglomerate that used to own CVS, Thom McAn, Marshall’s, KB Toys and other stores. I worked at the holding company headquarters and they’d send me off on these missions to the store divisions to try to get IT unified. I was a fish out of water, not knowing how to be a diplomat or how to influence change. I really didn’t have the track record but they trusted my judgment. The CIO was this wonderful, wonderful man from Mississippi. A really warm, big-brother Southern guy who was constantly there to revisit how it’d gone and the pluses and minuses of what I’d done.”

—Steve Morin, CIO, TAC Worldwide Cos.

4. Learn to listen.

“One of my first mentors gave me confidence because he listened to me. There was a huge project I was going to lead. I said, ‘What if I fail?’ He said, ‘You have done projects. You do them really well. What is causing your hesitation?’ He coached me through it.”

—Catherine Boivie, SVP of IT, Pacific Blue Cross

5. Treat every job as your last.

“People often see their current position as a stepping-stone to the next one and don’t embrace the role and give it their best. But I’ve learned that by treating every job as if it’s your last, I can take a role and make it much more than it is today and be fulfilled.”

—James Kane, IT program director, Defense Group, Northrop Grumman, and 2008 Ones to Watch honoree

—K.S.N.

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FIVE THINGS I Wish I'd Known When I First Became CIO

CIOs share what they've learned on-the-job
from communication to delegation

1. How to let go.

"I had moved from the technical side into management. I was trying to hang on to all my tech knowledge and do all the management things at the same time. It wasn't good for me or the people I was managing. It wasn't letting either of us develop. The art of delegation is very valuable, and it is an art. It involves not just assessing who's good at Unix or XML but knowing how and when to delegate."

—Cindy Hughes, CIO, Maryland Automobile Insurance Fund

2. It's who you know, not what you know.

"I don't think I truly understood the power of relationships. It's easy as CIO to say, 'Here's the internal rate of return on this project,' yet not understand that the business unit president has a strong relationship with someone outside your IT organization and wants to do software as a service rather than a new ERP system. You need to cultivate relationships over time."

—Craig Cuyar, SVP and CIO, Realogy

3. How to keep lines of communication open.

"One thing I wish I had known going in was the amount of effort it takes to maintain relationships with other executives. I've had to really work and plan to meet with executives one-on-one and find a way to sensitize them to having their ears out for issues that might be coming that call for IT. That's as well as being on top of it myself. It also takes special effort to get other executives focused on knowing that I'm approachable and I'll always be approaching them for intelligence."

—Michael Abbene, VP and CIO, Arch Coal

4. You can't satisfy everyone.

"Your job isn't to do what everybody wants. When you first become a CIO, you're reluctant to make those types of decisions. But after awhile, you realize that without making those decisions you're painting yourself into a corner. As a CIO, I am a service provider, but I do have a strong opinion on what services [the organization] should be asking me to provide."

—George Chappelle, chief supply chain officer and former CIO, Sara Lee Foods

5. All politics is local.

"I wish that mentors would have educated me more about other people and their motivations. At a lower level, you're really shielded from political things in an organization. You understand that they happen, but it's very different when you're there."

—Twila Day, VP and CIO, Sysco

—K.S.N.

talk to about their career and problems at work, or anywhere, really," says Dunn, who also judged the 2008 Ones to Watch Awards. Mentoring also makes the company better, she says. "When you have that ability to communicate and get guidance from someone who's been there, done that, got the T-shirt, you're more confident and productive."

CIOs fortunate enough to have good mentoring experiences early in their careers often go on to mentor younger colleagues. Those we spoke with agree there are right ways and wrong ways to do it.

For example, mentor-mentee pairs shouldn't be assigned; forcing a relationship sabotages it. As Craig Cuyar, SVP and CIO of Realogy, puts it: "To get the most out of this joint venture, you need shared risk and mutual benefit. You don't have that in an arranged marriage."

Though it happens, mentoring shouldn't be viewed as coaching. The latter is focused on specific enumerated goals—developing public speaking skills, for instance, or learning how to write a performance review, says CEC member Catherine Boivie, senior vice president of IT at Pacific Blue Cross, a healthcare system in Vancouver, British Columbia.

But mentoring is about developing a career in sync with someone's skills and goals. Mentoring, says Boivie, another Ones to Watch judge, "is an ongoing relationship rather than a transaction."

And, Boivie adds, coaches get paid for it. Mentors volunteer.

Reflecting that giving nature, CIOs from companies large and small share here distillations of what they've learned on both sides of the mentoring process, as well as key lessons they wish they'd been taught as they took on their first CIO roles. We're not saying there are easy shortcuts, of course. But take a look. **CIO**

Senior Editor Kim S. Nash can be reached at knash@cio.com. To comment on this article go to www.cio.com/article/341068.



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AFTER YOU, WHO?

**To create a culture
of succession in your shop
use this checklist
to lay the foundation**

BY DIANE FRANK

CIOs know how to manage their own careers—few reach such lofty heights without mapping out some kind of a campaign. But what about succession planning? How many CIOs think about how their own career plans affect the prospects of those around them and the future of their companies?

The answer is, not many, according to leadership specialists and others with a bird's-eye view of executive continuity. They say this needs to change if CIOs expect to close the profession's looming leadership gap.

Companies traditionally focus on positioning employees and managers to meet the immediate needs of the business. Succession planning, on the other hand, is necessary because it creates leaders for the future, says UPS CIO Dave Barnes, who rose to that position three years ago through the shipping giant's development plan.

Reader ROI

- :: Why you need a succession plan
- :: CIO tips for putting a plan together

"It's knowing what leadership teams you have to have in place in the future to drive your strategy," he says. "We don't want them to be a mirror of us today; we want them to be ready for tomorrow."

Few C-level executives are looking that far into the future, says Chris Patrick, a partner at executive recruiting firm Egon Zehnder International. Executives often know which skills and attributes a company values in its leaders,

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CIOs agree that a good plan is flexible, it adapts to an organization's needs and people, and it should be established in cooperation with human resources. But it should be placed within the office of the CIO.

but that's not the same as developing a plan to deliver on that vision. "Succession planning is more often than not an afterthought that is not sufficiently managed or thought through," Patrick says.

For CIOs who want to develop that long view of leadership, there is no right or wrong way to craft a succession plan. Some may prefer to try case-by-case training and mentoring; others may want to document a process that includes formal evaluations and a line item in the budget for management and technical development. CIOs who do succession planning agree a good plan is flexible, it adapts to an organization's needs and people, and it should be established in cooperation with HR. But it should be placed within the office of the CIO.

What follows is a succession plan checklist drawn from the experiences of CIOs who have successfully developed a process for fostering leadership in their IT organizations.

PERFORM NEEDS ASSESSMENTS

THE TOP QUESTION TO ASK yourself when starting any kind of personnel planning is: What skills does the IT organization need, and what leadership does the company need from IT?

Within that question are a host of others, such as:

- Are there management demands not being met by current executives?
- How many managers are due to retire within five, 10 years?
- Is anyone at the senior level looking to move into a new role?

Specific questions will differ. The point is that no matter what the capabilities of the people in the pipeline, the company and the CIO must envision a need for those skills. Don't be dazzled by the capabilities or career goals of the people under you, says Greg Dallas, vice president of Mammoth Mountain Ski Area, whose responsibilities include oversight of IT.

Some of these questions can be identified and answered within the IT group, but working with HR will help standardize and align your assessments with the business. And while org charts have gained a bad name, when it comes to determining succession, they serve as clear documentation of the company's plans.

DETERMINE HOW FAR DOWN THE LADDER TO START

HOW DEEP THE succession plan should go is another issue to consider.

Your direct reports are obviously targets for full-on succession development, but it's often worthwhile to push succession planning down to middle management, such as regional directors or functional unit heads. That way, when someone moves up internally, there are people ready to step in and there isn't a domino effect of empty positions down the line, says Kumud Kalia, CIO and executive vice president of customer operations at Direct Energy.

Creating a pipeline that draws people from the bottom to the top and identifies junior-level staff who could move up into management can help. At The Options Clearing Corp. (OCC), IT

leaders identified a set of traits, skills and knowledge considered necessary for each job in the department, and they use that to evaluate the development possibilities for employees. Working with IT, the HR department has also built those criteria into the hiring process. This increases the chance that IT will be hiring those who will fit into the development process, says Executive Vice President and CIO John Von Stein.

Early identification of staff for leadership development and advancement requires a thorough and consistent approach to individual development plans. This allows for more dynamic and agile employee management since skills can be developed for multiple roles, but it is also important not to push people too fast, too soon, says George Hall, SVP of HR for Information Resources at Marriott International.

EVALUATE SKILLS, PERFORMANCE AND GROWTH

ONCE YOU'VE IDENTIFIED your management needs, it's time to determine who can fill them now and in the future. A good place to start this process is with your employee performance evaluations. Make sure they include an examination of individual goals for growth. Expanding on those assessments of future goals can form the core of the CIO's succession plan.

Identifying skills to be developed often directly matches the company's needs assessment. HR can assist the CIO by maintaining and updating the information at a corporate level and in overseeing the question, Are we invest-



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Succession planning is “knowing what leadership teams you have in place in the future to drive your strategy. We don’t want them to be a mirror of us today, we want them to be ready for tomorrow.” —DAVE BARNES, CIO, UPS

ing in your people properly?

Marriott uses a Human Capital Review process to provide an initial evaluation of talent against “key dimensions.” For the IT group, this includes identifying an employee’s strengths in leading teams and developing strategy both within IT and with business unit partners; examining areas for further technical and management growth; and conducting a broad evaluation of current opportunities and employees’ readiness to step into those positions. This forms the basis for a comprehensive human capital management process that covers all aspects of talent management and development, Hall says.

IDENTIFY POTENTIAL

THIS IS HARDER THAN IT SOUNDS. Potential is hard to pin down, says Direct Energy’s Kalia. You obviously want to encourage all employees to improve existing skills and performance. But how, for example, do you identify the individuals who are good at managing people on a single project versus those who could manage an entire department in the future?

This is usually best done by the CIO and other senior leaders. It requires knowing the people below you, talking with them, and learning whether others look to them, Kalia says.

At UPS, IT managers go through the same leadership identification process as those in any other unit, says Regina Hartley, IS portfolio support (Workforce Planning) HR manager. Every manager performs self-evaluations in four leadership areas—business, people, results and self—which are commented on and supplemented by

his or her direct manager. All this feeds into a readiness rating that is shared with senior leadership across the company. This process provides a balanced view that is critical for the senior-level positions, where skills and knowledge must stretch across many areas, says UPS CIO Barnes.

PUT EMERGING LEADERS TO THE TEST

YOU’VE IDENTIFIED YOUR potential leaders. Now it’s time to put these rising stars in positions that will allow you to test that potential, Dallas says. At some companies, such as UPS, this includes formal rotations through IT functions and business units.

By giving potential leaders opportunities within the organization, the CIO can guide them and build their knowledge of the business. Tactics to try include:

- Making them the lead on a new project
- Letting them sit in with you on a management meeting
- Designating them as your alternate when you are out

Although there can also be a standard menu of opportunities to choose from, development plans should be

customized to the individuals, Kalia says. A formula or template can go only so far, because the amount of flexibility needed to accommodate different gaps and goals can vary widely, he says.

And don’t forget to offer a safety net, Von Stein says. Make it clear that budding leaders will not be penalized for failing at something outside their comfort zones. This will increase the number of those willing to stretch themselves and try new roles.

KEEP SUCCESSION CRITERIA CONSISTENT AND UP TO DATE

A ROBUST SUCCESSION PLAN is one that is perpetuated throughout the organization, becoming part of the corporate culture. “Succession planning is not a means to an end; it’s the end itself,” Marriott’s Hall says. “It’s really what falls out of doing other things correctly.”

The OCC periodically tweaks the core of its succession plan, adding to the leadership traits that it believes are critical in any job. Those tweaks reflect changes to the company and its market and affect every part of the leadership development process.

The bottom line, Von Stein says, is that those leaders who move up through a succession plan should want to use it in the future to identify, select and groom the next generation. Otherwise, the plan disappears and succession stops. **CIO**

Succession Plan Models

Want personal guidance from these and other CIOs who have implemented **SUCCESSION PLANNING**? Then join this teleconference being held by the CIO Executive Council on June 23 at 11 a.m. EST. To register for this event, go to <https://www.cioexecutivecouncil.com/public/teleconferences>.

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Diane Frank is a Content Development Specialist for the CIO Executive Council. To comment on this article, go to www.cio.com/article/341072.

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Inside:
**A Look at
How Microsoft
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Make the Most of Your Investment in Enterprise Applications

When you were a child, did you ever visit a science museum that offered lots of hands-on activities? I always liked the exhibit that let me try to lift my own weight. When I stood on the platform that had only a rope, I hauled with all my might to get just an inch off the ground. When I moved to the platform where the rope drove a bunch of gears, though, a light tug lifted me several feet. The lesson was clear: The gears worked together to move me much farther, with much less effort.

Microsoft Corporation and its partners are a lot like those gears. Every year we invest billions of dollars in research and development, but it's our partners that help turn our technologies into tailored solutions for our customers' business challenges. About 14 million people around the world work at companies that help bring Microsoft® technology to customers in some way—by developing software, delivering services or distributing hardware. They're critical to Microsoft's ability to extend our platform to serve your needs.

On the following pages, we're highlighting 16 Microsoft partners that are creating best-of-breed solutions built on the Microsoft platform. One case study looks at giving mobile managers real-time access to employee information when they're on the go. Another discusses how to supercharge the cycle of taking, filling and delivering orders. Each one suggests innovative ways to mesh all your systems into a powerful infrastructure that shapes terabytes of data into strategic advantage.

You'll discover some of the ways Microsoft helps you get more value from your enterprise applications, from the shop floor to the top floor.

First, you can extend your enterprise applications using the .NET Framework to support new business opportunities and more efficient

business processes. Many partner solutions are built using the .NET Framework and provide a straightforward approach to deriving additional value from existing enterprise applications from vendors such as SAP® and Oracle®.

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And finally, you can use familiar and powerful tools to unleash business data trapped in diverse back-end systems, and deliver the results to users through Office Business Applications (OBAs). OBAs build on Microsoft Office to deliver business processes and information so that employees can gain greater business insights, form better relationships with customers and partners, and develop new products and services.

We hope you'll come away inspired to learn more about how you can get the extra power to lift your company higher—with a little support from a Microsoft partner.

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Quest Software® delivers innovative products—including disaster recovery and others for virtual infrastructure management—that help organizations get more performance and productivity from their applications, databases and Windows® infrastructure, including Active Directory® and Exchange. Through deep expertise in IT operations and a continued focus on what works best, Quest helps more than 50,000 customers worldwide meet higher expectations for enterprise IT. Quest Software has offices around the globe.

Microsoft Partner Profile Microsoft Gold Certified Partner

Dell gets active, cuts costs with an enterprise-ready directory

When security, management and compliance demands required that Dell's authentication and identity management systems be consolidated into a single common directory, the Dell™ IT group turned to Vintela Authentication Services from Quest Software®. Doing so enabled the integration of Microsoft® Windows®, UNIX® and Linux platforms with the Microsoft Active Directory® service.

Providing centralized authentication and granting secure user access in this diverse mix of operating systems was a challenge for Dell. Its original approach required distributed accounts across all

Microsoft products was key to Dell's implementation of Vintela Authentication Services because the AIX, Solaris and Linux platforms can act as full citizens in Active Directory. As a result, the Vintela Authentication Services client is now installed on all of Dell's UNIX- and Linux-based servers.

"I would estimate that streamlining our operations through directory consolidation and centralizing authentication is freeing up one or two people per year," says Tony The, multi-platform project manager at Dell. "An even more important benefit is cost avoidance. We are growing our Linux environment quite a bit going forward, and Vintela Authentication Services can help us

"Streamlining our operations through directory consolidation and centralizing authentication is freeing up one or two people per year. An even more important benefit is cost avoidance."

—TONY THE, MULTI-PLATFORM PROJECT MANAGER, DELL

systems, and it presented management and security problems because any staff turnover meant touching all of the systems to modify user lists.

So Dell launched a project called Multi-Platform Management Integration, with the goal of making Microsoft Active Directory the master authentication system and overall source for all user accounts across all systems—including those running Microsoft Windows, IBM AIX®, Sun™ Solaris™ and various Linux operating systems. Quest's approach allows organizations to achieve single sign-on from Active Directory for SAP® applications, the Oracle® E-Business Suite and the entire PeopleSoft life cycle.

Being able to integrate Quest and

avoid a lot of costs simply by eliminating one of the areas that may cause problems in our compliance audits."

According to Steve Dickson, vice president and general manager, Windows Business Unit, working with Microsoft is a big benefit for his company because Active Directory is one of the foundational pieces of every Microsoft server shipped, and all of Microsoft's desktop clients leverage Active Directory in a business environment.

"The fact that we are building on an enterprise-class directory allows customers to leverage more capabilities from Active Directory," says Dickson. "It also means we don't have to be concerned about the underlying architecture of Active Directory when we build products."



Steve Dickson, VP and GM, Windows Business Unit, Quest Software

Cincom targets the unmet needs of complex value chains

There are many critical success factors for manufacturers, but some of the most significant include collaborating on complex sales cycles, bridging the gap between CRM and ERP systems through collaborative process and system integration, fulfilling orders for off-the-shelf and configurable products, managing fulfillment and measuring performance through analytics.

Cincom Acquire™ is a Microsoft® Office Business Application (OBA) that enables manufacturers to meet these challenges by bridging the process and system integration gaps between CRM and ERP systems.

ment process. The result is that manufacturers are more agile and able to respond accurately and quickly to demands from customers for complex products.

"CRM systems address transactional needs, but not the collaborative, expert-dependent processes of a complex sale," explains Thomas Nies, Cincom's president and CEO. "Acquire lets our customers automate processes like configuring products and services, project bidding and estimating, and generating proposals through the Microsoft Office applications people already know how to use."

The Cincom solution dramatically reduces sales cycles and eliminates the

"Because we're leveraging software the customer already owns, most companies will have a very short deployment and learning curve, plus the confidence of knowing they're working with Microsoft and all its thought leadership. Working closely with Microsoft allows us to provide our customers with a 'people-ready' front-office platform that makes complex sales easier and faster."

—THOMAS NIES, PRESIDENT AND CEO, CINCOM

Designed as a series of composite applications built on Microsoft SharePoint® Server using .NET technology, Acquire's applications can be selectively applied to many of the most critical processes that link contracts, orders and requirements to a company's ERP system's order management, manufacturing execution systems, and fulfillment and service systems. Prepackaged integration accelerators for enterprise applications like SAP® simplify the deploy-

potential for error. For example, a Siemens energy and automation plant that makes engineered DC motors has used Cincom to shrink the inquiry-to-order cycle from one month to just one hour. Cincom's technology has also enabled American Power Conversion, a global provider of network-critical physical infrastructure, to turn the five-day process of configuring its data center power and cooling systems into a 15-minute task done entirely via Web browser.



Cincom Systems Inc.

Founded 1968

Headquarters Cincinnati, Ohio

PRESIDENT & CEO Thomas M. Nies

URL www.cincom.com

Cincom specializes in enterprise business management applications for complex manufacturers. The company builds its applications entirely on Microsoft® technology, from Windows Server® to Microsoft Office, to integrate line-of-business applications across the enterprise. By solving technology problems via the Microsoft platform, Cincom frees its research and development team to focus on customers' specific business needs.

Microsoft Partner Profile Microsoft Gold Partner, Microsoft Managed ISV



Thomas M. Nies, president and CEO, Cincom Systems Inc.



Sierra Atlantic

Founded 1993

Headquarters Fremont, California

CEO Raju Reddy

URL www.sierraatlantic.com

Sierra Atlantic delivers a full range of IT services for enterprise applications and software engineering services that help customers optimize their business investments. With expertise derived from deep R&D relationships with enterprise software leaders such as Microsoft®, Oracle® and SAP®, Sierra Atlantic provides full life-cycle product development and IT services including implementation, integration, development, testing and support. Sierra Atlantic has hundreds of customers around the globe and offices worldwide.

Microsoft Partner Profile Gold Certified Partner, ISV Partner, NXT Delivery Partner

Sierra Atlantic supplies integration by extending ERP through .NET

Information silos can make even the most agile company sluggish. They undermine the business's ability to collaborate quickly and effectively. And they foster an ever-widening gap between technology and business processes, making it difficult for CIOs to deliver value to the enterprise.

A business process integrator, Sierra Atlantic enables IT organizations to foster more effective collaboration across the enterprise through the seamless integration of multiple businesses, platforms and applications—such as SCMnet® on SAP® NetWeaver® and Oracle® E-Business and PeopleSoft suites. Focusing on the business process model rather than a specific

the .NET Framework that integrated and optimized a critical manufacturing business process. The application implements a standard best-practices process across all manufacturing facilities. Through the implementation of this application, we have improved product quality, avoided additional manufacturing costs and enhanced responsiveness through shorter batch cycle times.”

“We are pleased to have been selected as AOC Resins’ partner on these important business and IT initiatives,” says Sierra Atlantic’s CEO and chairman, Raju Reddy. “Sierra Atlantic is uniquely positioned with our business process integration expertise and experience to support

“Through the implementation of Sierra Atlantic’s application, we have improved product quality, avoided additional manufacturing costs and enhanced responsiveness through shorter batch cycle times.”

—JIM KUNZ, CIO AND VICE PRESIDENT OF IT, AOC

application, Sierra Atlantic’s solutions help companies align IT systems with business workflow requirements.

One of Sierra Atlantic’s customers is AOC Resins, a specialty chemical manufacturer based in Tennessee that supplies polyester resins, colorants, additives and gel coats to the fiberglass composite industry. “AOC needed a common platform to address strategic business needs not met by our ERP application,” says Jim Kunz, AOC’s CIO and vice president of IT. “The Microsoft® .NET platform was selected based on its capabilities, connectivity and scaleable architecture. Sierra Atlantic built and rolled out a custom-designed application based on

organizations in the integration of their enterprise systems, customers, suppliers and trading partners in creating a seamless, collaborative environment.”

Because enterprises are dynamic rather than static entities, Sierra Atlantic begins projects by creating a road map that prepares CIOs to evolve their IT landscape to meet current and future business needs. The company offers a wealth of knowledge on standardizing processes and methodologies, synchronizing internal operations with global trading partners, and integrating back-office systems with third-party applications and customer data to streamline operations, increase productivity and heighten business intelligence.



**Raju Reddy, CEO,
Sierra Atlantic**

Winshuttle delivers greater efficiency, cost savings for ERP users

One of the largest mail systems in the world, Ottawa-based Canada Post employs 72,000 people and delivers 37 million pieces of mail every day to more than 31 million people. Although it strives for speed and efficiency, the organization discovered it was spending prohibitive amounts of time and money entering Microsoft® Office Excel® data into its SAP® ERP system.

Canada Post turned to the Winshuttle® transactionSHUTTLE™ solution, which speeds the process and improves the accuracy of getting data into and out of SAP systems by using Microsoft Office Excel

relationship, Canada Post saved \$300,000 by reducing programming and other work. In a single project, the organization saved \$60,000 in programmer wages and six months' time by using transactionSHUTTLE to upload into SAP multiple job evaluation points—data used to complete employee evaluations—for more than 8,000 positions.

“Overall, if you look at all the projects they have done using our tools, [Canada Post] has saved over \$1 million by using fewer data entry resources and eliminating unnecessary IT costs,” says Vikram Chalana, CEO of Winshuttle.

“Winshuttle empowers business users

“Winshuttle empowers business users to become data stewards. They can keep their data clean, they can load it into SAP, and they are completely responsible for it. They don't have to be dependent on IT.”

—VIKRAM CHALANA, CEO, WINSHUTTLE

spreadsheet software and Microsoft Office Access™ database software. Users simply enter the data into Excel, and transactionSHUTTLE automates the upload into SAP.

Before using transactionSHUTTLE, Canada Post's IT personnel had to use multiple SAP screens to enter data. They also relied on expensive third-party custom scripts, which required five days to make changes to compensation and bonus data. Accuracy was another problem, as manual bulk data entry for SAP updates often led to keystroke errors.

Winshuttle—which is a Microsoft Certified Partner—and Canada Post have been working together for just over two years. During the first six months of the

to become data stewards,” he continues. “They can keep their data clean, they can load it into SAP, and they are completely responsible for it. They don't have to be dependent on IT.”

Many organizations are discovering how easily business applications and Microsoft's .NET Framework combine with Winshuttle products such as transactionSHUTTLE to create enterprise-ready platforms that optimize IT infrastructures, extend capabilities and enhance efficiency. These products empower information workers in finance, accounts payable, accounts receivable, purchasing, human resources and production planning, and transform business processes across the enterprise.

WINSHUTTLE

Winshuttle

Founded 2003

Headquarters Bothell, Washington

CEO Vikram Chalana

URL www.winshuttle.com

Winshuttle provides easy-to-use automation tools to connect Microsoft® Office applications such as Excel® and Access™ with any SAP® product. Using Winshuttle software, companies worldwide have realized significant savings in time, money and programming efforts by eliminating redundant data entry. And by giving business users control of their data, Winshuttle tools enable companies to more easily comply with Sarbanes-Oxley regulations. Most Winshuttle customers obtain a return on their investment in an average of 45 days.

Microsoft Partner Profile Microsoft Certified Partner



Vikram Chalana, CEO, Winshuttle



AspenTech

Founded 1981

Headquarters Burlington,
Massachusetts

**PRESIDENT &
CEO** Mark E. Fusco

URL www.aspentech.com

AspenTech is a leading provider of award-winning process optimization software and services. AspenTech's integrated aspenONE™ solutions enable manufacturers to reduce costs, increase capacity, and optimize operational performance end-to-end throughout the engineering, plant operations and supply chain management processes, resulting in millions of dollars in cost savings.

**Microsoft Partner
Profile** Microsoft Gold
Certified Partner

AspenTech delivers operational excellence

As the process industry searches for innovative ways to improve and optimize engineering, manufacturing and supply chain processes, large manufacturers such as BASF, BP, Dow Chemical, DuPont, GSK and Shell turn to AspenTech. The company's software solutions are specifically designed to address the needs of energy, chemicals, pharmaceuticals and other complex process industries.

AspenTech's flagship aspenONE™ application suite optimizes processes across a wide range of engineering, manufacturing and supply chain operations, creating value through improved margins, higher yields, more throughput and lower

infrastructure to better integrate our process optimization solutions into our customers' business environment. This approach has resulted in our customers effectively solving complex business and process challenges in their familiar Microsoft operating environment," says Mark Fusco, president and CEO of AspenTech.

For example, AspenTech delivers enterprise visibility across manufacturing and supply chain operations using Microsoft SharePoint® Server 2007. By integrating manufacturing and supply chain operations seamlessly with line-of-business systems, including SAP® and Oracle®, companies can optimize their enterprise performance.

aspenONE leverages the ubiquity of

"aspenONE is built on the Microsoft infrastructure to better integrate our process optimization solutions into our customers' business environment. This approach has resulted in our customers effectively solving complex business and process challenges in their familiar Microsoft operating environment,"

—MARK FUSCO, PRESIDENT AND CEO, ASPENTECH



**Mark Fusco, president
and CEO, AspenTech**

energy consumption.

Key elements of the aspenONE application suite include process simulation and optimization, advanced planning and scheduling, plant information management, advanced process control and optimization, and supply and distribution. By enabling the use of Microsoft's Office Business Applications (OBAs) as part of its solutions, AspenTech helps manufacturers further extend their use of information across the organization to achieve higher levels of operational excellence.

"aspenONE is built on the Microsoft®

Microsoft Office Excel® to provide key operational information in a familiar form across the enterprise. This allows more people access to more information to make timely and better decisions, thereby improving enterprise performance and efficiency.

AspenTech and Microsoft are currently working on a project for a global manufacturing company that turns agricultural crops into industrial raw materials. The project will ensure that the right products are made at the right time in the right facility, creating faster time to market and improving their competitive advantage.

Talent visualization solution provides a strategic view into your workforce

With today's shifting economy and intense global competition for talent, organizations must maintain a highly qualified workforce. To effectively visualize and plan the workforce, companies need transparency into their human capital data so they can make informed decisions about strategic talent.

"Having a graphical view of your workforce is critical in enterprises that employ thousands of people," says Babak Varjavandi, CEO of Nakisa. "Companies of this size need a real-time picture of the entire organization so they can effectively view and manage their global talent."

"By fully leveraging our customers' existing investments in their ERP and their current IT environments, our solutions enable them to more easily execute workforce planning initiatives."

—BABAK VARJAVANDI, CEO, NAKISA

To respond to market demands, Nakisa developed the Nakisa® OrgManagement Series and Nakisa Talent Management Series. Built on the Microsoft® .NET Framework, Nakisa's solutions seamlessly interoperate with enterprise resource planning (ERP) systems, including SAP® ERP HCM, Oracle® PeopleSoft Enterprise and Oracle® E-Business Suite, and data repositories such as Microsoft Active Directory®, to provide in-depth visibility into global human capital in real time. Nakisa's solutions can also be deployed with an organization's corporate portal, such as Microsoft SharePoint®, to enhance employee communication and collaboration companywide.

Companies can use Nakisa solutions to

eliminate the manual creation of organization charts and succession plans, allowing them to focus on value-added tasks. For example, SI International is a global IT and network solutions provider with 29 locations, more than 100 customer sites and 4,700 employees worldwide. The company wanted to provide a universally accessible organizational chart, and eliminate ad-hoc, non-standard charts created by individuals and circulated in the company. SI implemented Nakisa OrgManagement Series for Active Directory, enabling its employees to visualize and administer enterprise assets from one easy-to-use portal running on SharePoint. In seconds, every employee with Internet access

can search for and locate the personnel and skill sets they need, complete with employee contact details and other hierarchical information.

"By fully leveraging our customers' existing investments in their ERP and their current IT environments, our solutions enable them to more easily execute workforce planning initiatives," says Varjavandi.

Nakisa's solutions provide organizations with deeper, more interactive views into enterprise data so they can effectively access, visualize, model and plan their human capital. With a real-time, centralized source of workforce data, organizations have the business intelligence required to align human capital with corporate objectives.



Nakisa Inc.

Founded 1990

Headquarters Montreal, Canada

CEO Babak Varjavandi

URL www.nakisa.com

Nakisa's goal is to help organizations make strategic decisions about how to better manage their global talent and optimize workforce performance by empowering them with a 360-degree view into their human capital data. Completely interoperable with all the major ERPs on the market, Nakisa provides a single point of access to critical HR data for succession planning, organization charting and workforce modeling.

Microsoft Partner Profile Microsoft Gold Certified Partner, .NET Connected Premium Partner, Microsoft Business Solutions Partner



**Babak Varjavandi, CEO,
Nakisa Inc.**



Omada Solutions

Founded 1999

Headquarters Palo Alto, California

CEO Morten Boel Sigurdsson

URL www.omada.net

Omada Solutions is a leading provider of Advanced Role Based Access Control and Compliance in Identity Management. The company tightly aligns its product development road map to the Microsoft® platform to deliver seamless integration across the entire Microsoft stack. Its solution also integrates elegantly with a broad spectrum of complex information systems, including SAP, ILM, AD and more.

Microsoft Partner Profile Microsoft Gold Certified Partner

Identity solution reduces user management costs, makes compliance easier

Compliance, security and efficiency issues are driving companies to seek identity and access management solutions. Companies must operate within the constraints set out by regulatory bodies, their financial managers and their auditing systems. They must provide users with timely access to information while protecting digital assets from unsanctioned retrieval or manipulation. And to maintain agility, they have to automate workflows and access rights around continually evolving business processes.

Ensuring that access rights are updated

cation programs with those of Microsoft, Omada raises the quality bar for the design, implementation and support of role-based access control. As a result, companies can easily meet regulatory compliance requirements such as Sarbanes-Oxley, enhance data security, increase productivity and significantly reduce user management costs.

Omada Identity Manager leverages portal services technology for both SharePoint® and SAP, enabling users to access, initiate and complete process activity from their portal page. It also publishes various Web services that can be called by other solutions in real time or in a scheduled

“The Omada Identity Manager solution has reduced the complexity and workload involved to coordinate tasks and progress. We are now able to easily and instantly track the progress of a multitude of workflows without searching through archived data.”

—MARTIN NIELS PEDERSEN, IT CHIEF OF THE MINISTRY OF ECONOMIC AND BUSINESS AFFAIRS, DENMARK



Morten Boel Sigurdsson, CEO, Omada Solutions

constantly and correctly is a struggle. And when organizational restructuring or new IT applications are added to the mix, the problem escalates. Omada's Identity Manager enterprise-ready solution addresses those issues by automating routine IT access control in accordance with standardized business roles that correspond to business practices, rather than millions of individual access rights. Built on the Microsoft® platform, Omada Identity Manager takes advantage of Microsoft .NET technology and provides seamless integration with HR systems like SAP®. In addition, by aligning its product road map and partner certifi-

manner—providing the anywhere, anytime availability that is associated with Microsoft's Software plus Services strategy.

Features like delegated administration facilitate fast, temporary reassignment of access rights when an employee is on vacation or out sick. Other features such as violation alerts prevent security holes by automatically notifying managers of unauthorized activity and by changing access rights when employees take on new roles or leave the company. Traceable audit trails provide instant access to compliance status and provide the necessary records to meet regulatory requirements.

Captaris simplifies data capture and document management

For documentation-heavy industries like finance and insurance, scanning paperwork and storing it as images are just the beginning of document management. Once they have digitized paper records, users must edit them and move the data they contain into line-of-business applications. Otherwise, the paperwork might just as well be hard copy.

Captaris has integrated its RightFax® image capture solution with Microsoft® Office SharePoint® Server 2007 to create an Office Business Application (OBA) that seamlessly integrates paper documents into business processes.

Built on Microsoft .NET technology,

including Oracle® E-Business Suite, Oracle CRM and SAP® R/3, with a single click, without leaving Microsoft Office.

For example, the Abbey Company, a real estate management company with more than 1,200 tenants in commercial properties throughout California, uses Captaris solutions to process and store thousands of documents—from rental applications and credit records to leases and insurance certificates. Employees can easily access the most recent versions of documents from their desktops. They receive incoming faxes promptly in Microsoft Outlook®, which also creates an audit trail for backup and security. The Abbey Company has even eliminated the need to purchase additional

“From a user perspective, the product acts as a service for populating images and index information into SharePoint because it’s transparent.”

—PAUL YANTUS, EXECUTIVE VICE PRESIDENT OF PRODUCT DEVELOPMENT AND MARKETING, CAPTARIS

the Captaris solution receives images from fax devices and scanners, then moves the images into SharePoint. The system notifies recipients that documents have arrived via RSS feeds or by adding them to a SharePoint work queue, where they can be accessed from anywhere on the internal network or the Internet via a Web browser or e-mail. Users can then view, edit, collaborate on and search documents with SharePoint using the familiar Microsoft Office interface.

Captaris’ new Single Click Entry product highlights metadata within the digitized documents such as names, addresses and financial information. After users verify its accuracy, they can export that data from SharePoint to Microsoft Dynamics® and other line-of-business applications,

filing cabinets, which would have been required to store the original volume of paper records, and 75 percent of its fax machines as well as the paper and toner required to keep them running.

“From a user perspective, the product acts as a service for populating images and index information into SharePoint because it’s transparent,” says Paul Yantus, Captaris’ executive vice president of product development and marketing. “For companies, it’s a seamless way to integrate critical information from static documents with the business processes that require it.” He adds that the OBA is a time-saver for IT departments because it requires no additional tools. Installation and configuration take place through SharePoint Administrator.



Captaris Inc.

Founded 1982

Headquarters Bellevue, Washington

CEO David P. Anastasi

URL www.captaris.com

Captaris is a leading provider of software products that automate document-centric business processes. Captaris specializes in document capture, recognition, routing, workflow and delivery. The company develops exclusively on the Microsoft® platform for a customer base that includes all of the Fortune 100 companies and the majority of Global 2000 companies. While Captaris works with all industry verticals, it particularly focuses on insurance, finance and mortgage lending.

Microsoft Partner

Profile a Microsoft Gold Partner, Microsoft Global ISV



Paul Yantus, EVP of Product Development and Marketing, Captaris Inc.

HYLAND SOFTWARE

Hyland Software

Founded 1991

Headquarters Westlake,
Ohio

CEO A.J. Hyland

URL www.onbase.com

Hyland Software deploys a suite of enterprise content management software applications to more than 1.75 million users worldwide. Its OnBase® solution integrates closely with several Microsoft® products to allow users to engage in workflow directly from familiar Microsoft interfaces without having to switch between applications. OnBase efficiently handles all forms of digital content, reducing the time and costs associated with paper-driven transactional activity while addressing regulatory compliance concerns.

**Microsoft Partner
Profile** Microsoft Gold
Certified Partner



**AJ Hyland, CEO,
Hyland Software**

Hyland Software's OnBase provides secure data within a familiar interface for users

Paperwork is the bane of organizations. Customers can be won or lost based on how quickly and effectively a company handles the documents—both hard copy and electronic—that support their transactions. Too often, document-driven processes require people to spend an inordinate amount of time and effort on busywork that creates delays, increases overhead and exposes the business to risk.

Transactional enterprise content management (ECM) applications such as document imaging and workflow have a proven track record of eliminating the costs, inefficiencies and risks associated with document-centric processes. However,

perform day-to-day business activities. For a mortgage lender it might be a loan origination system, for a physician an electronic health records system, for a manufacturing manager an enterprise resource planning system such as SAP® or Oracle® E-Business Suite. Personal productivity and process performance are enhanced because information workers can synchronize the processing of line-of-business data and corresponding documents stored in OnBase without ever having to leave their core applications.

"OnBase is officially considered a tier-one solution. Because it is such an integral part of the departments where it has been implemented so far, they rely on it to main-

"OnBase is officially considered a tier-one solution. Because it is such an integral part of the departments where it has been implemented so far, they rely on it to maintain operations."

**—ERIC SCHULTZ, PROGRAMMER ANALYST III
AND ONBASE ADMINISTRATOR, MOEN**

these solutions are often implemented without an understanding of how people do their jobs. Savvy IT project managers know that throwing technology at problems without considering the needs of the people it's supposed to serve frequently results in poor adoption, costly "shelfware"—and in some cases the threat of unemployment.

Hyland Software's OnBase® suite of transactional ECM applications takes a different tack. Using an array of integration techniques—some that require no programming—it exposes functionality through the interface of the primary application that an information worker uses to

maintain operations," says Eric Schultz, programmer analyst III and OnBase administrator at Moen, a plumbing products manufacturer.

Furthermore, Microsoft® Office SharePoint® Server provides OnBase with a platform that creates a single point of access for enterprise search, enabling more effective collaboration and easy access to process improvement applications. OnBase's packaged integrations with SharePoint give authorized information workers a consistent, familiar experience to access OnBase-managed content alongside all the other information they need to make profitable decisions faster.

Linking partners, suppliers and customers for savings and return on investment

Companies implementing our business systems are able to gain a better overall view of their business and their markets, which allows them to work more efficiently and effectively," says John Hiraoka, senior vice president and chief marketing officer of Epicor. "But the real value is in how we can help them be more responsive to their customers and to new product and market opportunities that can drive profitable growth."

Epicor helps companies link with their customers, partners and suppliers by connecting their information through a common, familiar business language. "Epicor does the heavy lifting," says Hira-

oka, referring to the myriad transactions that an Epicor® ERP system consolidates and stores.

oka, referring to the myriad transactions that an Epicor® ERP system consolidates and stores. integrated data anywhere, anytime, which is the goal of Microsoft's Software plus Services strategy. Epicor's customers have achieved significant savings and a fast return on investment (ROI). For example, Micro Dynamics, an electronics contract manufacturer and services company, implemented Epicor Service Connect to automate parts management, saving between \$500,000 and \$750,000 in its first year. The company applied Service Connect to 12 more work-flows, and estimates that it saved hundreds of thousands of dollars by reducing errors to near zero.

"Today's businesses are global, whether over the Internet or through their physi-

"Companies implementing our business systems are able to gain a better overall view of their business and their markets, which allows them to work more efficiently and effectively."

—JOHN HIRAOKA, SENIOR VICE PRESIDENT AND CHIEF MARKETING OFFICER, EPICOR

cal presence in different geographies," says Hiraoka. "But globalization goes beyond multicurrency and multi-language; it goes down to the transactions."

Those transactions are often embedded in an SAP® or Oracle® backbone, particularly at multinational companies. "So integration to these systems is a key capability that we provide," says Hiraoka. "We are able to bidirectionally integrate and synchronize a wide variety of data from forecasts, schedules, pricing and master data, to employee, production and financial information. With our latest generation of systems, you are able to do business anywhere, and grow it efficiently and very cost-effectively."

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EPICOR®

Epicor Software Corp.

Founded 1984

Headquarters Irvine, California

President and CEO Thomas Kelly

URL www.epicor.com

Epicor is a global leader that provides integrated enterprise resource planning, customer relationship management, supply chain management and professional services automation software solutions to the midmarket and divisions of Global 1000 companies. Employing service-oriented architecture (SOA) and Web services technology, Epicor delivers end-to-end, industry-specific solutions for a variety of industries.

Microsoft Partner Profile Microsoft Certified Partner



John Hiraoka, SVP and CMO, Epicor Software Corp.

approva.

Approva Corp.

Founded 2001

Headquarters Reston,
Virginia

CEO Prashanth V. Boccasam

URL www.approva.net

Approva Corp. provides governance, risk and compliance (GRC) software for continuous controls monitoring and audit automation. The company enables business, finance, IT and audit professionals to automate controls across SAP®, Oracle®, JD Edwards®, PeopleSoft® and other legacy applications. Global companies rely on Approva® to reduce compliance risk, increase operational efficiency and flag exceptions to their business controls.

Microsoft Partner
Profile Microsoft Gold
Certified Partner

Approva automates audit processes for greater compliance and efficiency

When T-Mobile UK implemented Approva® BizRights, a governance, risk and compliance (GRC) solution that automatically identifies control exceptions, it discovered 83,000 segregation-of-duties (SoD) violations. A typical SoD violation is having one person who both writes a purchase order and pays the invoice, creating the potential for fraud.

T-Mobile's experience is not unusual for a company its size. "Violations build up over time," explains Prashanth Boccasam, Approva's CEO. "People move from one job to another and get access [privileges] they need for the new job without losing access

fast, Boccasam says, adding that Approva customers can reduce the time to audit ERP applications by up to 80 percent.

Approva also developed an Office Business Application (OBA) that allows business users to monitor and manage controls from within Microsoft Outlook®. For example, a procurement manager may receive an e-mail alerting him to violations that includes a menu of available actions and a prioritized bar-graph summary of the violations. Managers may also log on to a portal residing on SharePoint® Server 2007 and see that same information in a dashboard view.

That agility makes short work of remediation. T-Mobile UK estimated it would

"Either you get into this mode of adding new violations with every user request or you do it right with a product like BizRights, where you clean up once and stay clean."

—THOMAS BEITEL, DIRECTOR OF INTERNAL AUDIT, UGS

they no longer need."

Most companies have tasked their IT departments with manual audits and remediation. With this in mind, Approva designed BizRights to automate controls monitoring for key financial applications such as SAP®, Oracle® and PeopleSoft®. BizRights allows IT departments to push the management of controls to the business users who are ultimately accountable for them. Boccasam says this is a key to compliance, and should be the first consideration in evaluating continuous controls monitoring solutions.

Moreover, the Microsoft® SQL Server® database enables BizRights to analyze and report on large amounts of data extremely

need five months to remedy the 83,000 violations, but using BizRights its managers did so in less than three months. In another example, UGS, a product life-cycle management solution provider, used BizRights across its 6,000-user SAP environment, and estimates that external auditors reduced the time needed for an SoD review from 120 hours to 20 hours.

Notes Thomas Beitel, director of internal audit at UGS: "Either you get into this mode of adding new violations with every user request"—which requires considerable internal resources or consulting fees to remediate—"or you do it right with a product like BizRights, where you clean up once and stay clean."



Prashanth V. Boccasam,
CEO, Approva Corp.

ECM solution drives improved customer interaction, cost savings

On the left side of a computer screen sits the familiar Microsoft® Outlook® interface with an open e-mail—perhaps a customer complaint. On the right, a task pane aggregates all the e-mails, contracts and shipment notices related to the customer's order. The e-mails originate in Microsoft Exchange, the contracts are stored in a document management system like Microsoft SharePoint® or Open Text's Livelink ECM—Document Management, and the shipment notices are generated by SAP® Business Suite. This is Livelink ECM—Customer Information Management, the enterprise content management

customer information using a combination of Open Text technology and Microsoft Office 2007 smart tags and Visual Studio® Tools for Office. It recognizes information in customer e-mails, such as order numbers, and highlights them with Microsoft smart tags. Users can then select a tagged piece of data to launch a cross-application query that populates the Outlook task pane with all related information. The benefits are happy customers and lower costs. By integrating Customer Information Management with its SAP applications to quickly and easily access all relevant customer data through the Outlook interface, Thyssen-Krupp Nirosta, a stainless steel producer, has reduced the time to answer customer

“If your average customer query takes 10 minutes to process, Livelink ECM—Customer Information Management can help you cut that by 30 percent, thus reducing the cost of one of your core activities by 30 percent.”

—JOHN SHACKLETON, PRESIDENT AND CEO, OPEN TEXT

(ECM) solution for sales, support, customer service and logistics from Open Text.

“In the old days, I'd have to run around gathering pieces of relevant information, line them up on my desk and consolidate the information in an e-mail to the customer,” explains John Shackleton, Open Text's president and CEO. Support or sales personnel rarely have access to or training in every application holding customer data, but they all have Outlook. “The trouble is, there is a lot of information not in Outlook,” says Shackleton.

Customer Information Management is a Microsoft Office Business Application (OBA) that pulls together all related

queries by 30 percent. “Our customer service workers have instant access to content-related information, and are able to answer e-mails without wasting time searching for or requesting information from others,” says Marco Kurz, ThyssenKrupp's project manager for the initial implementation, which involved 300 sales and logistics users.

Shackleton cautions CIOs to look beyond an attractive interface: “Invest in ECM from a vendor who's doing it as a product, not a project, to ensure ongoing support and upgradeability. Finally, look at the overall ROI driven by reduced processing times and the ability to provide quick, accurate responses to customers.”

OPEN TEXT

The Content Experts™

Open Text Corp.

Founded 1991

Headquarters Waterloo, Ontario, Canada

President and CEO John Shackleton

URL www.opentext.com

Open Text, an enterprise software company and leader in enterprise content management, helps organizations manage and gain the true value of their business content. Working with its customers and partners, Open Text brings together The Content Experts™ to help organizations capture and preserve corporate memory, increase brand equity, automate processes, mitigate risk, manage compliance and improve competitiveness. The company supports approximately 46,000 customers in 114 countries and 12 languages.

Microsoft Partner Profile Microsoft Gold Certified Partner



John Shackleton, President and CEO, OpenText



Citrix Systems

Founded 1989

Headquarters Fort
Lauderdale, Florida

CEO Mark Templeton

URL www.citrix.com

Citrix Systems is the global leader in application delivery infrastructure. Through its Access Suite™ and Presentation Server™, customers can access their enterprise applications on-demand—from anywhere, at any time, using any device, over any connection. Citrix collaborates closely with Microsoft to extend the capabilities of Microsoft® operating platforms by creating a highly scalable, secure and manageable access layer that reduces enterprise computing costs and increases the utility of any information system.

Microsoft Partner

Profile Microsoft Gold
Certified Partner, Global
ISV Partner, Gold-Level
Windows Embedded Partner

Gaining infrastructure manageability and speed with virtual solutions

As companies adapt to a global economy, it's becoming progressively harder to manage their IT infrastructures. Systems, applications and networks, once limited to a company's physical plants, now extend beyond the corporate walls to include those of its trading partners, supply chain, customers and even investors. Understanding the end-user computing environment—the types of devices, operating system versions, security configurations on the browsers, etc.—can be a nearly insurmountable challenge.

Citrix Systems helps businesses reduce complexity by delivering applications to end points virtually, independent of the actual user computing environments. Applica-

using] Citrix software, application performance is greatly increased," says Saburo Morimoto, IT department chief. "The same high speed is maintained when accessing SAP® servers located in America. And all this occurs without upgrading the network or having to install new client machines."

To achieve greater flexibility and lower total cost of ownership, Citrix has teamed with Microsoft and SAP on projects that simplify how information workers interact with their enterprise applications. Foremost is the Citrix support for Duet™, which will deliver SAP business processes through a familiar Microsoft® Office environment. The soon-to-be-released Duet 1.5 works with Citrix Presentation Server™ to deliver Duet virtually to users around the world in

"With the bandwidth efficiency [gained by using] Citrix software, application performance is greatly increased."

—SABURO MORIMOTO, IT DEPARTMENT CHIEF, JAPAN MOLEX CO., LTD.



**Mark Templeton, CEO
Citrix Systems**

tion teams can install and configure a single desktop environment and make it available to every user simultaneously, without having to rebuild networks or desktop architectures or address other infrastructure variations in the extended enterprise.

Citrix solutions efficiently use bandwidth so that virtually delivered applications run with headquarter speed even at great distances from the host server. With central, single-point manageability, the Citrix access layer simplifies testing, maintenance and support, and reduces the effort involved in deploying new applications.

That manageability and speed were selling points for Japan Molex Co., Ltd., a manufacturer of electronic, electrical and fiber-optic interconnection products. "With the bandwidth efficiency [gained by

their Microsoft Office environment, while eliminating the need to configure and update implementations on every PC.

A second collaboration leverages Citrix partner Extentrix's Web services platform to give users one-click access to nearly any application through an SAP NetWeaver® Portal toolbar. Using the Microsoft .NET framework as the base architecture and certified by SAP, the Extentrix toolbar for Citrix seamlessly integrates with the SAP NetWeaver Enterprise SOA platform to deliver virtualized applications to users at the time of need, with no pre-installation required on the desktop.

These close partnerships give Citrix more ways to help companies realize significant benefits when they make application delivery a strategic priority.

Intelligent infrastructure improves efficiency, produces cost savings

For companies with multiple complex processes, gaining visibility across operations is a major challenge. Yet without the ability to gather data from multiple systems, companies may overlook opportunities to gather business intelligence that could help reduce costs and improve operations.

The OSIsoft® PI System™, a real-time performance management infrastructure, addresses this challenge. Built on Windows Server® 2008 and SQL Server® 2005, the PI System creates an archival database from more than 500 types of operational data sources, including ERP systems such as SAP® R/3® and Oracle®. It then uses Microsoft® Office SharePoint® Server 2007,

agreements let our customers focus on generating more value from their business, while we handle deployment, operations and maintenance of the PI infrastructure,” says OSIsoft CEO Patrick Kennedy. “By logging in to our extranet, customers can quickly generate dashboards, view reports and receive alerts about their plant infrastructure through Microsoft Office.”

The OSIsoft solution helps companies eliminate inefficiencies and streamline operations. For example, the PI infrastructure enabled Eastman Kodak to leverage its SAP NetWeaver® Enterprise Portal to create an energy information system for Kodak Park, its 1,300-acre manufacturing facility in Rochester, N.Y. The system tracks

“OSIsoft’s PI infrastructure increased Kodak’s operational visibility, allowing it to improve energy efficiency and minimize use. As a result, the company saved approximately \$22 million in less than a year.”

—PATRICK KENNEDY, CEO, OSIsoft

Excel® and PerformancePoint™ Server 2007 to transform the data into dynamic real-time plant floor reports and key performance indicators that users can view with the familiar Microsoft Office interface.

OSIsoft offers its PI infrastructure through Microsoft’s Software plus Services model called Managed PI, which uses Web-based software to gather performance data from PI Systems at customer sites. That data is transmitted to OSIsoft’s Network Operating Center, where the OSIsoft PI infrastructure analyzes it, ensuring the customer’s systems are running correctly.

“Managed PI and scalable enterprise

utility usage in real time for all 150 Kodak Park buildings, displaying actual use against conservation targets. “Our PI infrastructure increased Kodak’s operational visibility, allowing it to improve energy efficiency and minimize use,” Kennedy says. “As a result, the company saved approximately \$22 million in less than a year.”

OSIsoft is pursuing stronger integration with the Microsoft Office platform to enable the creation of dynamic plant-floor Office Business Applications (OBAs). This will give companies more ways to expose real-time data and events through the Managed PI Software plus Services model.



OSIsoft Inc.

Founded 1980

Headquarters San Leandro, California

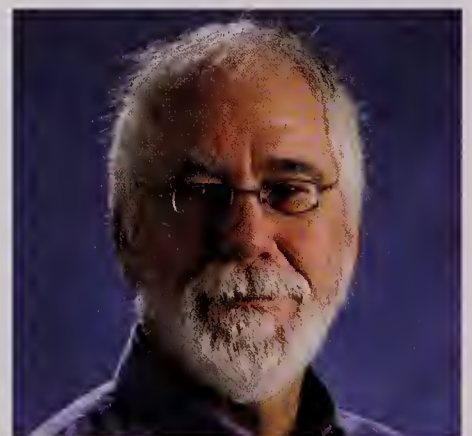
CEO Patrick Kennedy

URL www.osisoft.com

OSIsoft develops the PI System™, the industry standard in enterprise historians, as the core of its real-time infrastructure platform. A global base of more than 14,000 installations across manufacturing, energy, utilities, life sciences and other process industries relies on the OSIsoft PI System to safeguard data and deliver enterprise-wide visibility into operational health in order to manage assets, mitigate risks and identify new market opportunities.

Microsoft Partner

Profile Microsoft Gold Certified Partner with competencies in ISV/Software Solutions and Information Worker Solutions



Patrick Kennedy, CEO, OSIsoft Inc.

TIDAL[®] SOFTWARE

Tidal Software

Founded 1979

Headquarters Palo Alto, California

President and CEO Flint Brenton

URL www.tidalsoftware.com

Tidal Software is a leading provider of automation solutions for IT operations. Tidal's products help IT automate the operational, diagnostic and corrective action processes needed to run the applications that run the enterprise. Tidal makes applications such as SAP[®], PeopleSoft[®] and Oracle[®] E-Business Suite[™] more efficient, reliable and secure, and brings new levels of visibility and control to composite applications in SOA and Web services environments. Across industries, companies turn to Tidal because strong IT leaders understand that the more effectively a data center operates, the more readily IT can respond to the business's needs.

Microsoft Partner

Profile Microsoft Gold Certified Partner



Flint Brenton, President and CEO, Tidal Software

Tidal Software puts application performance levels on the Horizon

Determining and fixing performance problems in heterogeneous IT infrastructures that rely on ERP application suites has traditionally been complex and time-consuming—and even more so in companies where relatively few technical experts are charged with sifting through enormous amounts of data in search of system faults.

Tidal Software has developed an elegant solution to this vexing problem with Tidal Horizon[™], an application performance management software package. Horizon automates the laborious process of analyzing underperforming and failed applica-

tions Manager 2007 to empower Horizon. "Microsoft provides robust, cost-effective technologies that help us quickly bring solutions into the customers' data centers," he says. "That makes it easy for Tidal, and also lowers both our support costs and the customer's TCO."

Albany International, a leading producer of paper machine clothing and high-performance doors, has been running Horizon since November 2007. Albany's director of IT, Barry Duncan, is so pleased with the product that he is making it a key component in the company's enterprise-wide restructuring, which includes expanding from 200 to 3,000 SAP users, and consoli-

"Microsoft provides robust, cost-effective technologies that help us quickly bring solutions into the customers' data centers. That makes it easy for Tidal, and also lowers both our support costs and the customer's TCO."

—FLINT BRENTON, PRESIDENT AND CEO, TIDAL SOFTWARE

tion environments by locating processing problem points and implementing expert procedures to resolve them. Customers report that Horizon reduces the mean time to resolution by up to 90 percent.

By deploying these advanced capabilities, companies running enterprise applications such as SAP[®] and PeopleSoft[®] have the earliest and most precise understanding of application performance problems affecting enterprise-wide applications from a single console.

According to President and CEO Flint Brenton, Tidal utilizes Microsoft[®] technologies such as SQL Server[®], SQL Server Reporting Services and Opera-

ting servers from 40 different sites and three data centers into one global center.

Duncan notes that Horizon monitors performance at the client and database levels, which provides data such as average response times, average database request times, and average waiting times for end users and application servers.

"With Horizon, we've been able to pull together all of our performance data," Duncan says. "Once we get a Horizon report, we are able to drill down all the way to the transaction where there is an issue. The end result is that we're saving staff time, and we have a much better comfort level with performance."

KBACE provides its customers with business intelligence on demand

Providing reporting and analytics to every type of information worker often requires multiple tools that span technologies, skill sets, security and accessibility demands. As a result, few companies can guarantee that people can access the specific information they need, in a format that supports decisions.

Leveraging its industry-recognized expertise in the Oracle® E-Business Suite, KBACE has developed a Web-based business intelligence platform, KBI™, that shields users from underlying complexities and delivers boardroom-quality reports and charts on demand. KBI delivers prebuilt content for areas within Oracle

as part of its standard product support, so customers can continue to run published and custom reports without interruption.

One of the largest and most diverse providers of professional technical services hired KBACE to help deliver human resources information to managers in the field. Previously, the company's central IT department was the primary source of Oracle HCM data. To get even basic information about head count, turnover and employee performance, 1,700 U.S. managers had to request reports from the central office and wait for the results. Now, using KBACE's KBI solution, they access HR records via a Web browser and make more informed decisions about project staffing.

“Microsoft is investing heavily in BI for the future, and has a road map that includes affordable, practical ways for our clients to extend the business applications they already have.”

—EDWARD LAZZARI, CEO, KBACE

HCM, Oracle CRM and Oracle Financials. Output and security can be configured to fit each client.

The KBI solution exports smoothly to Microsoft® Office Excel® and Outlook® as well as SharePoint® portals. Built entirely on Microsoft technology, KBI lets employees access information from their desktops, receive it via Web browser or e-mail, and print it with no loss of formatting.

“Implementation usually takes a month or less,” says KBACE CEO Edward Lazzari. KBI also eases the burden on clients' IT departments and includes all necessary Microsoft licensing. When Oracle releases a patch or a new version that changes the underlying databases, KBACE updates KBI

“With more than 800 locations, we needed a way to easily and securely provide our field managers summary and detailed information to support decisions,” says a director at the company. “The KBI solution provided this visibility and helped significantly reduce the amount of IT involvement needed.”

“As the business intelligence market consolidates, our clients want to be confident that they're choosing products and strategies that are here to stay,” Lazzari says. “We can assure them that Microsoft is investing heavily in BI for the future, and has a road map that includes affordable, practical ways for our clients to extend the business applications they already have.”



KBACE

Founded 1998

Headquarters Nashua,
New Hampshire

CEO Edward Lazzari

URL www.kbace.com

KBACE, a leader in Oracle® e-business consulting, provides a full life cycle of services dedicated to the Oracle E-Business Suite. The company has gained its unparalleled technical and functional expertise from working side-by-side with hundreds of world-class organizations in a variety of industries throughout their Oracle implementations, conversions, patching, business process reengineering and support cycles. By partnering with its clients, KBACE ensures they are maximizing the value of their Oracle investment.

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Edward Lazzari, CEO, KBACE

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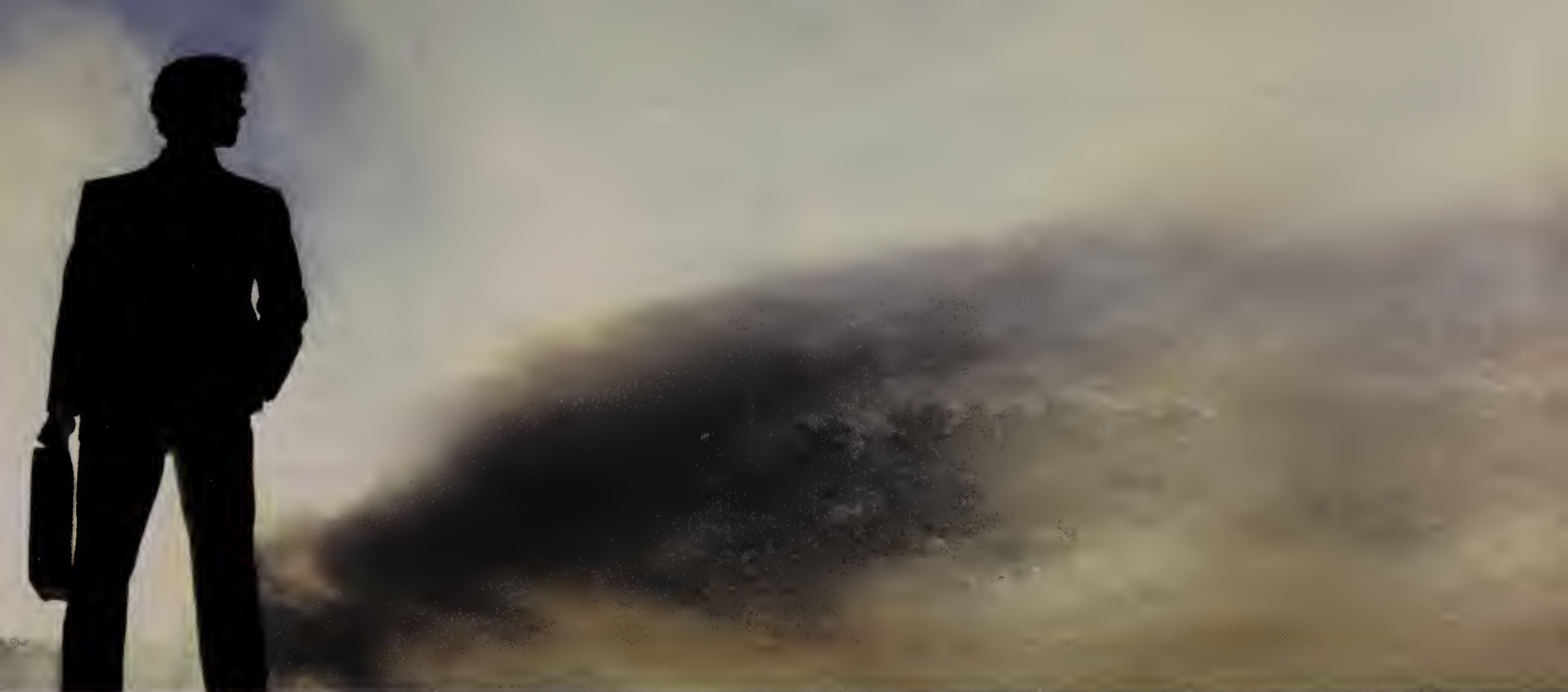


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*Results not typical, and are based on use with Windows Server 2003 Enterprise Edition. Availability is dependent on many factors, including hardware and software technologies, mission-critical operational processes, and professional services.



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The *Pathways* program is offered by the CIO Executive Council, a member-led executive organization, consisting of current and future business leaders working to impact the intersection of business, technology and strategy. The CIO Executive Council's mission is to foster measurable value for all members by enabling them—through peer reliance and outreach—to apply the knowledge, insights and best practices of their peers to the success of their enterprise and personal achievement. To learn more about the CIO Executive Council, visit www.cioexecutivecouncil.com.

2008 ONES TO WATCH AWARDS

Honoring the next generation of IT leaders
and the CIOs who have fostered their talents

BY STEFF GELSTON

Got leaders?

It's a question more and more CIOs are asking themselves as retirement, outsourcing and a shrinking pool of IT talent are converging to push leadership development to the top of the to-do list. Cultivating IT leadership is at the core of the Ones to Watch Awards, presented annually by *CIO* magazine and the CIO Executive Council. Through this award, we recognize the next generation of IT leaders and the CIOs who've fostered their talents and helped them advance up the leadership ladder. And with our Standout Award, we highlight those Ones to Watch winners who have excelled in leading innovation, business strategy, project execution, resource management or organizational change.

The winning accomplishments of the 20 men and women who make up the 2008 Ones to Watch Award honorees offer proof positive of the benefits of growing your own take-charge leaders. Most have also been lucky enough to have highly supportive bosses who believe in developing IT talent: 83 percent say their CIO is extremely committed to their development, according to our poll of the winners. (To benchmark yourself against the 2008 Ones to Watch winners, go to www.cio.com/quizzes/ones_to_watch_08.)

Congratulations to all our winners and to the CIOs who nurtured and then nominated this year's class of leaders. We know you'll do great things in the years to come.

the WINNERS

Sherry Aaholm, 45
EVP, IT
FedEx Services

* STANDOUT WINNER: RESOURCE MASTER

Yuri Aguiar, 39
CTO
Ogilvy & Mather Worldwide

Joan Albeck, 42
Director, IT Infrastructure
Scottrade

* STANDOUT WINNER: PROJECT DRIVER

Leonard Burke, 43
VP, Hotel Technology
Services
Hilton Hotels Corp.

Elvis Cernjul, 37
Senior Director of Technical
Services
Spiegel Brands Inc.

Ed Earl, 43
Global Director, IT Applications
Littelfuse Inc.

Mahmoud El-Assir, 33
VP, IT Sales & Marketing
Systems
Verizon Telecom

* STANDOUT WINNER: INNOVATOR

Craig Everson, 37
VP, IT Customer Operations
& PMO
CUNA Mutual Group

Tomas Gregorio, 39
VP, Affiliate CIO IT&S
Department
Newark Beth Israel Medical
Center

Stephen Haag, 37
Associate VP, Director of
Technology
HNTB Corp.

* STANDOUT WINNER:
BUSINESS STRATEGIST

Patrick Hale, 38
Deputy Director, Bureau of
Infrastructure Services
State of Michigan

* STANDOUT WINNER: CHANGE AGENT

John Hill, 39
VP, Informatics Services
Roche

James Kane, 44
IT Program Director,
Defense Group
Northrop Grumman Corp.

Dewitt Latimer, 45
Deputy CIO, CTO, Assistant
VP/Assistant Provost
University of Notre Dame

Jackie Magno
VP, Worldwide Applications
SAP Business Objects

Jerry Moore, 32
Director, Client
& Network Services
Tulsa Technology Center
School District #18

Carol Mullins, 48
Director, Submission
Processing
Internal Revenue Service

Jerome Oglesby, 47
Director, Infrastructure
Technology
Services & IT Process
Excellence
Deloitte & Touche USA LLP

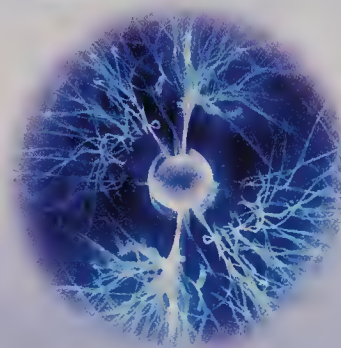
Virginia Suliman, 35
VP of Web Technologies
Hilton Hotels Corp.

Charles Wallace, 40
Executive Director, CTA of
Global IT Architecture and
Infrastructure
Rohm and Haas Co.



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the JUDGES

All nominees were critiqued by three members of our judging panel, who participate in the CIO Executive Council.

Michael Abbene
VP & CIO
Arch Coal

Jackie Barretta
VP & CIO
Con-Way Inc.

Catherine Boivie
SVP of IT
Pacific Blue Cross

Larry Bonfante
CIO
United States Tennis Association

Catherine Brauer
CIO & VP of Information Systems
Mutual Fund Technology
Prudential Investments

George Chappelle
Chief Supply Chain
Officer
Sara Lee Foods

George Conklin
SVP & CIO
CHRISTUS Health

Jody Davids
EVP & CIO
Cardinal Health

Mitch Davis
CIO
Bowdoin College

Joe Drouin
CIO
TRW

Jeri Dunn
CIO
Bacardi

Thomas Henkel
VP, Global IT
Amer Sports Europe Services

Charles Hunsinger
CIO
Corporate Express North American Office Products

Steven John
CIO
H.B. Fuller Co.

Kumud Kalia
CIO & EVP, Customer Operations
Direct Energy

Ron Kifer
Group VP & CIO
Applied Materials

George Lin
CIO
Dolby Laboratories Inc.

Gerry McCartney
VP of IT & CIO
Purdue University

Steven McIntosh
SVP & CIO
Jackson Enterprises

Rebecca Rhoads
VP & CIO
Raytheon

Ray Schmidt
Former CIO
PCAOB

Brian Shield
EVP & CIO
The Weather Channel

Gregory Smith
VP & CIO
World Wildlife Fund

Richard Toole
CIO
PharMerica Inc.

John Von Stein
EVP & CIO
Options Clearing Corp.

David Wagner
CIO
ON Semiconductor

Diane Wallace
CIO
State of Connecticut

Scott Wesson
CIO
AIMCO

Carl Wilson
EVP & CIO
Marriott International

Gordon Wishon
CIO & Associate VP & Associate
Provost
University of Notre Dame

how we CHOSE THE WINNERS

To qualify for the 2008 Ones to Watch award, candidates had to be nominated or sponsored by a CIO. A 30-member panel of working CIOs and the CIO Executive Council reviewed and rated the applications. Three CIOs scored each nominee on several criteria, including expertise in a range of business and IT functions, experience in leading a large project or conceiving a new business product, and ability to turn around

a troubled project or organization. After a final due-diligence review by CIO's editors, we chose the 20 Ones to Watch. To select the winners of the Ones to Watch Standout awards, the editors reviewed the applications and judging scores of all the finalists to determine which candidates showed an outstanding aptitude for business strategy, leading change, resource management, driving projects or innovation.

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With more than one million metro fiber miles, an 18,000-route-mile intercity network, and more than 900 central office collocations, XO is in the places your enterprise needs to be, helping meet your business objectives with a network built around you.



Let us build a solution around you. To learn more about XO Enterprise Solutions, visit our website or call 888.718.7595.

[www.xo.com/
builtaroundyou](http://www.xo.com/builtaroundyou)

Me Back Up!

Kindred Healthcare's CIO needed to rein in storage costs while keeping up with a data explosion that threatened IT's ability to quickly recover information. He found a solution with virtual tape library technology.

BY THOMAS WAILGUM

As Kindred Healthcare CIO Rick Chapman begins a discussion about his company's storage strategies, he asks a rhetorical question: "Why would I be talking about this as opposed to the VP of data center operations?" The simple answer is that as wave after wave of new data flows into Kindred's systems—including electronic patient records, e-mails, insurance and billing files, and government-mandated documentation—Chapman is feeling the squeeze on the overall cost and performance of his IT operations.

IT funding and its related infrastructure and storage costs sit high atop the agenda of Kindred's executive committee, of which Chapman is a member. And storage, a growing component of infrastructure, once too mundane for other executives to notice, is suddenly in the C-suite spotlight. "Now we have to be more transparent, and be able to defend the purchases and the cost

Reader ROI

- :: Why storage is a critical infrastructure issue
- :: Reasons to deploy virtual tape library technology



Renew the Enterprise Mainstays:

Moving Mainframe Applications to Windows

Author: Dr. Mike Gilbert, Legacy Directions

The last decade has seen a huge increase in the number of servers deployed to support new business initiatives, but uncontrolled growth has created a large cost and carbon footprint. Today, IT organizations want to consolidate business applications on strategic platforms, but legacy applications that have been built for proprietary mainframe operating environments do not move easily. Inflexible applications hamper business agility and innovation; doubts over the long-term availability of mainframe skills threaten the sustainability of core business functions.

Organizations that have chosen the Windows Server® operating system as a strategic platform are considering options to preserve, translate, or rewrite their mainframe applications. Here is an illustration of each option, showing how three organizations have made this transition.

The Italian Department of Social Security moved applications comprising 24 million lines of COBOL code to the Windows® platform using a Windows compiler from Fujitsu Computer Systems Corporation and services provided by Accenture. Preserving the source code is most appropriate when the application serves a critical business need well, but the organization is seeking to lower costs and minimize the risk of changes to business and IT processes. The core skills that are required to maintain and enhance the application remain unchanged, and improvements in agility and the ability to innovate are slight.

GDC A/S, one of Scandinavia's major distributors of home entertainment and electronics, enlisted the help of BluePhoenix Solutions to translate a large Adabas/Natural application to Java and Microsoft® SQL Server® database software. The project was completed in less than a year. Use translation when there is a need to make use of modern languages, platforms, and databases; this achieves greater levels of agility and long-term sustainability in the IT organization, while modernization costs and the risk to current business operations are minimized.

The Schwan Food Company commissioned Infosys Technologies and Relativity Technologies to rewrite custom applications running on a Hitachi mainframe to a Windows Server 2003-based system running SQL Server and using the Microsoft .NET Framework. The mainframe has been decommissioned and is now located in a museum in Minnesota. Rewriting delivers a fully modernized IT platform based on current best practices. Updated and innovative functionality streamlines current business operations and anticipates future business needs.

Technology for all three options has matured and stabilized over a period of 20 years or more, and each has notched up many hundreds of successful projects. However, these projects affect existing, stable, core systems that run the business; careful planning is necessary to avoid unforeseen cost and risk. These options are discussed in greater depth in a white paper published on the Microsoft mainframe modernization Web site¹. This site, combined with resources published by the Mainframe Migration Alliance², provide greater insights into the problems and successes involved with moving mainframe applications to Windows.

¹ See www.microsoft.com/mainframe

² See www.MainframeMigration.org



Renew by Preserving

Windows compilers, available for most mainframe programming languages, provide the basis for preserving mainframe source code while moving operations to the Windows platform. Additional tools and services are available to adapt or emulate the mainframe transaction processing, terminal, and database environments.

Renew by Translating

Conversion tools are used to translate mainframe source code into C# or Java and to convert legacy databases and screens to contemporary equivalents. These tools, considered primitive ten years ago, are now able to reverse-engineer complex applications into language-neutral models that are used to generate new Web applications.

Renew by Rewriting

Rewriting a large mission-critical application is a complex undertaking that may involve greater costs and risks than other solutions. Business continuity is ensured by using analysis tools to reverse-engineer existing applications into a language-neutral model. Development teams elaborate the model with new requirements and build the new system.

For More Information

Read the "Moving Mainframe Applications to Windows" white paper for an in-depth discussion of these transitioning options.

Download the white paper from:
www.microsoft.com/mainframe



Kindred Healthcare
CIO **Rick Chapman**
chose virtual tape
libraries for quick access
to data archives and
speedy disaster recovery
capability.

structure of the infrastructure," Chapman says. "I have to make sure we're as cost-effective and still able to provide the business service reliability for the company."

To get a better handle on costs while at the same time keeping pace with Kindred's burgeoning demand for storage and data recovery needs, Chapman has vowed to eliminate his traditional tape backup systems within the

next five years and replace them with virtual tape library (VTL) technology.

A VTL is an appliance that uses data storage virtualization technology to improve compression on disks. It also helps companies reduce duplication of stored information. The technology isn't new—it's been on the market since 2001. But it's getting attention as CIOs take aim at

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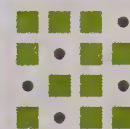
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“We have over 400 terabytes—just unimaginable volumes of data from what we had just a few years ago. We’ve seen exponential growth, and it keeps pressure on the storage platforms.”

—RICK CHAPMAN, CIO, KINDRED HEALTHCARE

the storage problem. According to a recent report by Forrester Research Principal Analyst Stephanie Balaouras, these techniques enable companies to use disk capacity more effectively and thus lower costs.

The “Save Everything” Mentality

Chapman is no small-time CIO, nor is he one of those CIOs more comfortable in the back room than in the boardroom. Kindred Healthcare is the largest for-profit, long-term healthcare provider in the United States, with \$4 billion in revenue, 52,000 employees and 600 facilities in 39 states. Chapman is not only the CIO but also the chief administration officer. He has worked in top IT spots at healthcare giants Columbia HCA and Humana in the past, and he knows the complexities of health care from both the business and IT sides.

What he sees in IT lately leaves him in awe. “We’re growing [data volumes] by 40 percent a year, and now we have over 400 terabytes—just unimaginable volumes of data from what we had just a few years ago,” Chapman says. “We’ve seen exponential growth, and it keeps pressure on the storage platforms.”

In fact, Chapman and other CIOs in health care face a vicious cycle of mandatory document retention. Government regulations such as the Health Insurance Portability and Accountability Act (HIPAA) force every organization and every person to save electronic medical records and e-mail for longer and longer periods of time. As a public company, Kindred has to maintain financial records in accordance with the Sarbanes-Oxley Act. And like every company, it is subject to new federal litigation procedures that require it to provide electronic documents during legal discovery if it is sued.

A survey by the Healthcare Information and Management Systems Society (HIMSS) published in February finds that government regulation and compliance issues are a growing concern among IT leaders. Thirty percent

of CIOs cited regulation and compliance as a top business issue this year, compared with 20 percent in 2007.

Healthcare institutions also face pressure from their legal departments to be able to produce all documents that relate to malpractice, as well as to Medicare fraud and abuse cases. Such documents, including e-mail, are “subpoenable and discoverable in legal cases,” says Chapman. “Saying that we deleted them is not a good reason anymore.”

Kindred does not save literally every single e-mail; what must be kept and what can be deleted is determined by the company’s records retention policy. Nevertheless, the policy dictates that “a greater portion of specific e-mail is kept forever,” says Chapman. Patient records may need to be kept for 35 years, and financial records have a 10-year life.

The sum of all this storage could be overwhelming for many organizations. Back in 2004, a Frost & Sullivan “Healthcare Storage Report” predicted that by 2010, medical organizations would have to hold nearly 1 billion terabytes of data, which is roughly the equivalent of 2 trillion file cabinets’ worth of data. Last December, IDC (a sister company to CIO’s publisher) reported that storage capacity is growing at a rate of 60 percent a year.

All that storage gets expensive and resource-intensive. “It’s mind-boggling and completely nonproductive,” Chapman notes. “It’s that hidden cost of health care that you don’t see at times.”

Tales of the Tape

One critical piece of Kindred’s unwieldy storage puzzle is that it needs fast and easy access to backup, archiving and disaster recovery systems. There are legal reasons: For example, Kindred Healthcare often

receives subpoenas to provide what Chapman describes generically as “select e-mails from executives who were having conversations about a certain topic during a certain time period.”

“All of this is kind of recent, and all this has ratcheted

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Finally! ROI Strategies that Really Work for Wireless Expense Management

Exponential growth in the use and cost of wireless services is a critical challenge to enterprises worldwide. A mobile and distributed employee and customer base, combined with complex broadband technologies, make the management and control of these essential resources expensive and unwieldy. In a curious counter dynamic, a significant portion of the market does not regard wireless assets as mission critical.

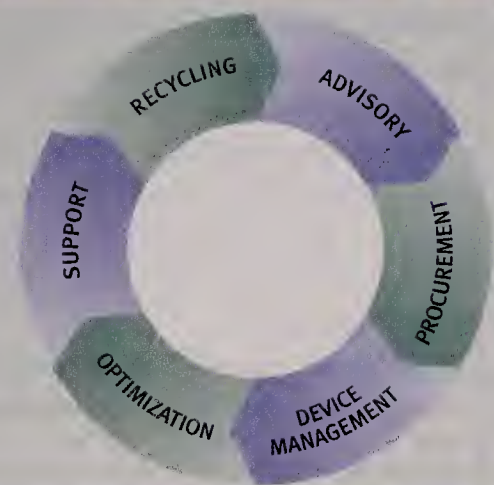
Companies like Telwares, a leader in wireless and wireline expense management, take a different view that is reaping significant returns to enterprises heavily invested in mobility. A proven solution that is unique to Telwares applies a seamless, integrated and comprehensive approach to planning, executing and sustaining a

well developed wireless and mobility spend strategy. Telwares' Mobility Lifecycle Management solution enables enterprises to:

- **Gain the visibility** required to control expenses and manage policy compliance.
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*Reduce mobility costs, streamline
practices, and control processes*



What the Research Reveals

In a recent report, research firm AOTMP identified business process optimization for wireless mobility as a top enterprise priority for 2008. According to the study of CIOs and CFOs, **47%** of IT executives identified reduced spending for telecom services as the leading initiative for 2008.

The AOTMP survey also found that **59%** of enterprises plan to make wireless mobility the top network technology that will impact their 2008 business strategy.¹ Findings establish that mobility asset management now reigns as a critical strategic investment for improving profitability. According to the survey:

- **56%** of respondents identified lack of resources as the premier challenge in managing wireless assets and implementation.
- **39%** of CIOs identified absence of accurate inventories of services, usage and assets as a primary pain point.
- **30%** of CIOs identified improved data accuracy and management as the most effective method for strengthening processes and positive competitive outcomes.

The Experts' Rx: Adopt a Comprehensive Solution Strategy

Research shows that effective and successful expense management providers apply an integrated approach to complete wireless and wireline asset management. Telwares sets the standard in this regard by combining seamless technology with unsurpassed professional services, intellectual property and industry experience. Many of the industry's most effective executives look to Telwares to validate, manage, optimize and reduce their telecommunications spend across:

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¹ CFO and CIO Perspectives: A Top-Down View of IT and Telecom Management, AOTMP Report, January 22, 2008, by Joe Basili.

66 *It takes more time to back up and recover than we have time available in the data center overnight.* 99

—RICK CHAPMAN, CIO, KINDRED HEALTHCARE

up in the last five years as more [legal and government] attention has come to this industry," he says.

Business continuity figures prominently, too. If a financial or a patient-care system goes down, Kindred has to be able to recover data quickly.

Like many companies, Kindred has relied upon tape backup systems and massive, centralized data libraries for archiving and recovery. Tape, however, has its limits, as storage volume grows. Balaouras writes that enterprises "aren't frustrated with tape" itself, even though it's "slower than disk," and "more prone to errors." The issue, she says, is that companies can't back up so much data during the time they have set aside for that process. Chapman confirms that nightly backups have become nearly impossible. "It takes more time to back up and recover than we have time available in the data center overnight," Chapman says.

Other healthcare CIOs also have concerns regarding tape's limitations.

John Halamka, the CIO of Beth Israel Deaconess Medical Center (BIDMC) and Harvard Medical School, writes on his blog, *Life as a Healthcare CIO*, that tape backup, which BIDMC has used for decades, "suffers from a variety of problems. Tape backups are time-consuming. Tapes are fragile and require physical security when transported. The time required to retrieve and recover from tape stresses our service availability objectives." Like Chapman, Halamka is deploying VTL technology.

A key benefit of VTL is data "deduplication," an approach that reduces a big portion of redundant data that can hog disk space and provides quicker access to data, as compared to tape. For example, each time a document is backed up, only the changes that a user makes to that document are

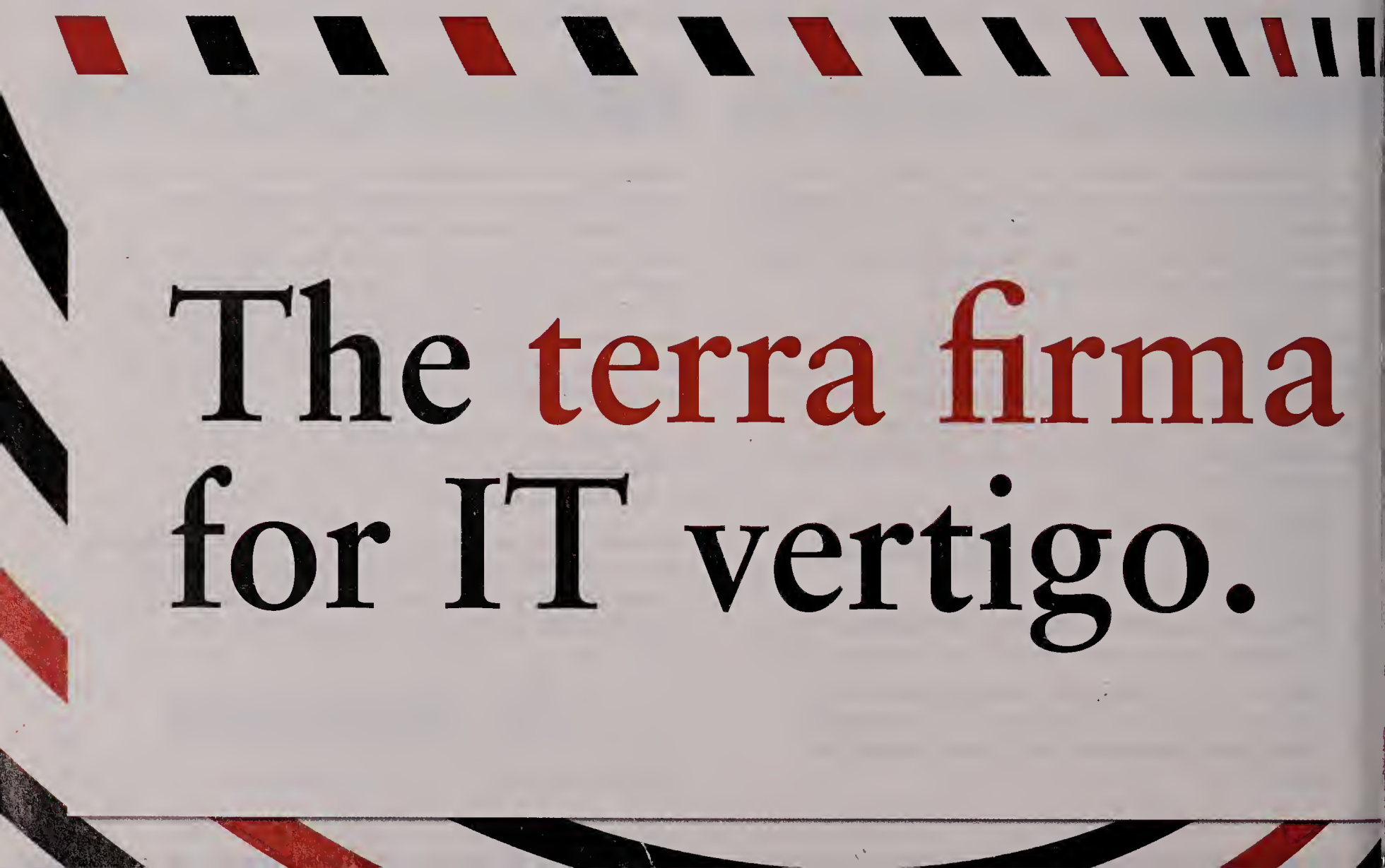
saved—not the entire document or copies of the document.

Chapman is using VTL technology from Sepaton, and Halamka is rolling out similar technology from Data Domain. Halamka is mov-

More About Virtualized Storage

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The terra firma for IT vertigo.

ing even faster than Chapman: Halamka wants to completely eliminate the need for tape in his data center in two years.

Repurposing Storage Dollars

"Doing more with less" has become a familiar refrain for almost every business today, but this is especially true for health care. Respondents to the HIMSS survey said for the eighth year in a row that the most significant barrier to successful implementation of IT was a lack of money.

At Kindred, Chapman says he's on a mission to cut infrastructure costs so that he can reinvest the savings in "frontline business initiatives, like application development." This newfound agility, as he calls it, will give IT more credibility and help grow the business. He says he hasn't calculated a traditional ROI for his VTL investments; it was a "no-brainer" to invest in the technology to maintain the timeliness of data backup and recovery.

But Chapman is well aware of the value that can be generated through easy access to data. For example, he invested in data warehouse analytic tools that help Kindred take advantage of its wealth of historical data (such as patient, billing and financial information) for business analysis. Users can "scan this massive data and convert it into actionable information to deal with a business issue," Chapman says. The value derived from crunching the

numbers pays for the cost of storing the data.

Two years ago, the Centers for Medicare and Medicaid Services proposed a rate restructuring and reimbursement plan for long-term-care hospitals that Chapman says was "very onerous." Kindred Healthcare and other similar organizations had 60 to 90 days to react to the new regulations and give their input on why this was or—in Kindred's view—was not a good plan.

"In a couple of days, working with our reimbursement departments, we could model that new reimbursement [plan], apply it to the entire previous year's activity in the hospital division and come out with what the impact would be," Chapman says. That information was given to Kindred's government relations representative, who used it in testimony before the House Ways and Means Committee.

In the end, MedPAC's proposal was altered, saving Kindred approximately half of what would have been "a giant cut" in the company's reimbursement from Medicare, Chapman says. "Not every example is as dramatic as that one was, but it's that kind of direct 'connect the dots' to an outcome that affects the bottom line of the company." **CIO**

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Managing the Consumer Tech Invasion

You've noticed it seeping into the IT workday. An end user calls the support desk for help connecting a new iPhone to the corporate e-mail. Another asks how to add Skype capability to the desktop. Consumer IT—technology and devices initially designed and marketed for use in the consumer space—has infiltrated the workplace.

CIOs overseeing the invasion of consumer technology know it's not enough to simply write a management policy, post it on the intranet and then revisit it a few years down the road. "Stagnant policies and procedures just aren't practical for these types of technology," says Rob Israel, vice president and CIO at \$400 million John C. Lincoln Health Network. Policies need to be revised on a regular basis, according to user needs and organizational security concerns; Israel revisits his every four to six months. And for any policy to work, CIOs need to have a strong communication strategy, involve users in policy creation, build in security and find a balance between restriction and freedom of use.

Communicate Existing Policies

"I know some CIOs who have 150 or 200 security policies. That's just way too many," says Israel. His consumer IT-related policies total 30. The limited number makes it easier

to communicate the policies and their updates. When Israel's team makes a policy addition or change, they explain the rationale to users with straightforward language. "We'll say, 'Do you know why we encrypt e-mail?' Then, we'll explain why we do it in three or four sentences," says Israel.

Involve the End-User Community

Jay Dominick, formerly CTO at Wake Forest University and now CIO at the University of North Carolina at Charlotte, sees more consumer technologies being introduced every day. Most come from students, who tend to have both disposable income and time on their hands.

"Our policy-making process involves multiple layers of faculty, staff, student input and the legal office," says Dominick. "So it can take six months or a year to reach consensus." In 2000, when Napster hit university networks,

Dominick says "it took almost two years before there was a response from universities as to how to manage it."

That was then. Students now have input in forming the policy, so the specifics get socialized among the user community before the policy debuts. This way, there are no surprises.

"A policy that is a surprise won't get followed," says Dominick.

Continued on Page 72



Jay Dominick

ONE::LINER

**"If you ignore consumer IT,
your end users will
ignore you."**

—ROB ISRAEL, VICE PRESIDENT AND CIO, JOHN C. LINCOLN HEALTH NETWORK





TALKING DOMINATES A MEETING. DOING DOMINATES AN INDUSTRY.

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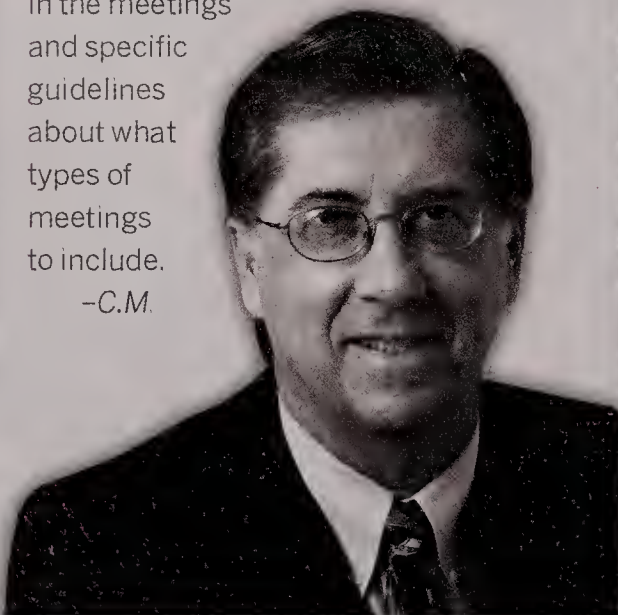
Now Playing on JPL-TV

Jim Rinaldi, CIO at Jet Propulsion Lab (JPL), is a big fan of using multimedia to receive and share information. "We encourage the use of podcasting to keep current with a topic and hope to make iTunes a standard offering on desktops," he says. In the meantime, there's television.

A couple of years ago, senior business executives were struggling with how best to keep staff apprised of new thinking. They came to Rinaldi with an idea: They wanted to tape seminars and meetings and make them available online. The idea clicked with Rinaldi and his team; his deputy CIO took ownership of the project.

Less than a year later, JPL-TV debuted on the corporate intranet. The tool is a variation on YouTube and currently has about 100 videos in its growing inventory, complete with search functionality (which is still maturing). Employees throughout the organization can visit JPL-TV, search for a specific video and then watch it on their desktop. The JPL-TV team is creating a set of specific management policies, which will be found on the site, and include items like permission to videotape participants in the meetings and specific guidelines about what types of meetings to include.

—C.M.



Invasion

Continued from Page 70

Balance Policy Strictness

Given the confidentiality restrictions around patients' medical data at John C. Lincoln Health Network, Israel employs a high level of strictness in his usage policies for consumer IT. At Kennametal, a \$2 billion industrial manufacturer, there's more leeway. IT works closely with end users to find suitable workarounds to its strict policies, says Raj Datt, VP and CIO of Global Information Technology. An example is a request for YouTube functionality by the sales staff. "Our sales team came to us asking for functionality so they could show potential clients current pricing and inventory products from a video perspective. We responded by enabling BlackBerry access to our ERP system for real-time customer data," says Datt. Working with users to create a viable alternative has helped change their view of Kennametal IT from that of a cost center to a value-driven organization. "If we don't give them an alternative, then they would just bypass IT," Datt says.

Automate Enforcement

Technology tools are a good way to enforce consumer IT procedures and take control of your security landscape. Israel uses automation tools from Lumension (to prevent users from connecting an iPod to the system without prior authorization) and Pointesec (to force encryption for all removable media). "I have a love-hate relationship with thumb drives. We are moving to mandatory encryption, where the saved data is encrypted and the thumb drive itself is encrypted with biometrics," says Israel.

Once a mobile device is configured to access the ERP system at Kennametal, an automatic security solution is deployed that includes password protection and the ability for Datt's team to remotely lock or wipe the data if a device is lost. Datt also has policies around device procurement and supports only certain features of some devices. For example, although there is a GPS capability in the 900 BlackBerrys deployed throughout Kennametal, it is not activated for use at the server level at this time.

It is possible to reap the benefits of consumer technologies in the workplace while exercising control. At John C. Lincoln, doctors and nurses suggested an alternative use for Bluetooth headsets. IT responded and today, healthcare professionals use hands-free Bluetooth to obtain medical updates and new patient-care information. Kennametal's CEO Carlos Cardoso joined the blogger community to communicate to employees and discuss corporate strategy.

"Technology is becoming so personal and so capable that smart people want to use it to make their work lives better," says Dominick. **CIO**

Carrie Mathews is senior manager, member services, for the CIO Executive Council. Send feedback on this article to letters@cio.com.

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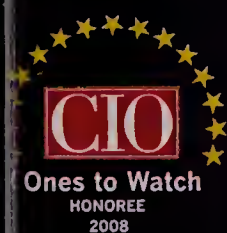
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Why You Shouldn't Have an IT Budget

To get the most from your IT investments, consider not what is in your budget, but what you're spending to reach business goals

One of the many diamonds of wisdom that come from working with people running companies is that a corporate strategy needs a constraint or two.

While the strategy sets the ambition and context for business decisions, constraints drive us to make them. Two things, however, are vital: A constraint must be genuine, and people must use it to execute the strategy, not undermine it.

With talk of global economic challenges in the air, it's a good time to reflect on what we've learned about the value of IT spending constraints to the success of the CIO's strategy. Some hatch batten-ing-down seems inevitable, so let's turn this to our advantage. Even if current economic concerns turn out to be misplaced, we can make sure the strategy wins either way.

What to remember about constraining IT costs? First, a CIO's departmental budget is rarely the same as a company's total IT spending. Constraining the IT budget is no guarantee of constraining overall IT costs because there are almost always IT expenditures in business unit budgets.

Second, constraining IT costs in isolation from business decisions breaks the first principle of IT investment (technology, on its own, delivers no

value). IT budget constraints potentially impact all who use IT to create business value, and all the related business decisions. So let's understand, and utilize, the business causes of IT costs and the business impacts of constraining them in order to define how much to spend on IT.

Define the IT Budget

Rachael is the CIO of a major transportation company, with a staff of 400. Her IT budget is \$245 million, 17 percent more than last year. When times are tough, that seems wrong. Most departmental budgets are likely to be frozen or cut. However, her executive colleagues know what is causing the increase. Rachael's budget is a variable proportion of the company's total IT spending, and she consistently reduces her like-for-like budget (i.e., exclud-



Business Process Management:

IT Executing at Business Pace

Bruce D. Williams

SVP AND GM,
SOFTWARE AG INC.

Williams has more than 25 years of professional experience, including business consulting, software and aerospace industries.

If CIOs' only tool for change is a new ERP module, they're in for a long road before they reach prosperity, says Bruce Williams, co-author of *BPM Basics for Dummies*. Fortunately, Business Process Management (BPM) enables CIOs to respond to change naturally and at the pace of business. Read on for more insight from Williams.

What is BPM all about?

Businesses achieve performance through the execution of activities that we call processes. And BPM is about improving performance in the way we design, manage, execute and optimize these processes. It goes straight to the heart of how businesses succeed. Obviously, CIOs care

BPM gets IT off the critical path and puts CIOs right at the business table, executing to business needs at business pace.

about BPM because there is a technology component that requires a change in paradigm around how they deliver value and how they better engage the business in improving overall performance.

Is BPM a technology or a management discipline?

BPM is an overall discipline, bringing together process methods like Six Sigma, lean manufacturing or Total Quality Management (TQM) with specific tools that enable processes to be governed and optimized across the enterprise. It's im-

portant to note that BPM is not a replacement technology; it's about leveraging and enhancing what's already in place.

What near-term pain points does BPM address?

In the near term, BPM facilitates the continuous execution of processes consistently, quickly and error free. Once orchestrated, BPM helps CIOs monitor key processes end-to-end. And, because of its agility and adaptability, it allows CIOs to respond to change and modify behavior faster and better than ever before. In the long term, BPM provides big-picture visibility across the life of the value stream, all the way to customers on the other end.

How is BPM an enabler for IT?

Enterprise IT has evolved into something cumbersome and often expensive. But BPM has given CIOs the tools they need to respond to change more naturally and within the context of business expectations. BPM gets IT off the critical path and puts CIOs right at the business table, executing to business needs at a business pace. TD Banknorth exemplifies this, using BPM to deploy new processes in an afternoon while spending two weeks establishing the governance around such processes.

Can you provide other examples of successful implementations?

Motorola has applied BPM and measurement to reduce faulty orders by 70 percent or more, most notably within key business segments like cell phone production. Similarly, Johnson & Johnson is using BPM and measurement to improve order accuracy to 99 percent "first time, right time" delivery.

How can CIOs get started with BPM?

Despite the fact that it's been a hot topic for decades, BPM is still ambiguous. CIOs must understand the fundamentals: what to do, what not to do and where to go for help. With *BPM Basics for Dummies*, CIOs can, in about an hour, understand and evaluate what the BPM movement means to their company. So that's a great place to start: www.softwareag.com/bpmfordummies.

FOR MORE INFORMATION:

Check out the white paper "BPM Done Right: 15 Ways to Succeed Where Others Have Failed" at www.cio.com/whitepapers/softwareag.

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ing the incremental impacts of new projects and of business volume growth).

Rachael leads the corporate strategy for IT. Its promise is that the company will create maximum value from all its investments involving IT. The IT numbers that most concern her are the company's total IT costs. The two numbers she wants to explore are total cash spending on IT and the total cost of IT to profit and loss (P&L). Cash spending is money that goes out the door; cost to P&L is how much IT costs the profit of each business unit and of the company. The two numbers are different and are usually managed by different people.

Elements of both appear in corporate, business unit and project budgets. Rachael's strategy relies on transparency of both the total numbers and the business decisions behind them. The last thing that she needs is for people to hide IT costs, call them something else, or call non-IT costs "IT." Such behaviors obscure the truth and undermine the tactics for using IT costs to influence business decisions.

Rachael is transparent with her colleagues about her department's costs, their underlying causes and what those costs pay for, so they are equally frank with her about their own IT-related costs. They are all confident that they are working with the bona fide total IT numbers within an immaterial margin for error. As a result, Rachael can estimate that the company will spend \$316 million this year on IT, 27

percent less than last year. While her departmental budget is increasing, total IT spending is declining. However, Rachael also has to tell her colleagues that IT's total

cost the company's P&L will rise 15 percent to \$285 million.

What are the main causes of the movements in these numbers, and what can be done to reduce how much is spent on IT? This is where exploring IT costs in isolation has to stop and the business context for those numbers must begin.

Rachael explains that total cash spending on IT is expected to decline this year because the company plans to invest less in business projects, and a lower proportion of those projects' total business investment will be spent on IT. However, she says, the actual total may be different from current provisions because many projects have yet to be initiated or conceived.

Cut Spending the Right Way

If the executives want to reduce total cash spending on IT, what options do they have? There will be some scope to prune total operational expenditure on IT. However, this will be paying for services used by the company's employees and customers to create value within the organization and beyond.

The CIO's departmental budget is a red herring. Business decisions that cause the company to spend money on IT make the total IT costs what they are.

These expenses are also covered by contracts with suppliers and IT employees. The main room for maneuver likely lies in business projects involving IT. Now, with everyone looking at the IT numbers, they might be tempted to prioritize the IT costs within projects to meet a new, lower, IT total. This is the right process but it is looking at the wrong numbers.

The cash that executives plan to spend on IT is one element of the total project investment necessary to deliver the promised benefits. If the executives want to prioritize investments in projects involving IT, they need to consider the entire project, not just the IT pieces. They can choose not to invest in projects that promise little bang for the business buck. A better process is to explore how to achieve the same bang by spending less—even nothing—by exploiting existing systems. When they've finished, total IT spending within projects may be less or the same, but the company will have the most productive portfolio of projects involving IT given the cash constraints.

Turning to the total IT costs to P&L, again, where is the room for maneuver? In Rachael's company these are rising while total cash spending on IT is falling. This is because the costs to P&L are primarily caused by previous years' projects, not this year's. Capital investments in IT cause depreciation charges to P&L for years ahead, while many projects involving IT cause permanent increases in the operational costs for IT services. The best time to start constraining this year's IT costs to P&L was last year and before!

Constraining future IT costs to P&L needs to be an integral part of our project approvals process, solution designs, sourcing decisions and project management. If our projects portfolio is going to impact our future IT costs to P&L by more than we can afford, then we need to recraft the business changes that plan to exploit technology, with no loss of business value, so future IT costs stay within our constraints.

In constraining a company's overall IT costs, the CIO's departmental budget is a red herring. Business decisions that cause the company to spend money on IT make the total IT costs what they are. Get those decisions right; then the most appropriate total IT spending, and IT budgets, emerge. That's worth remembering when looking at IT costs, whether times are hard or not. **CIO**

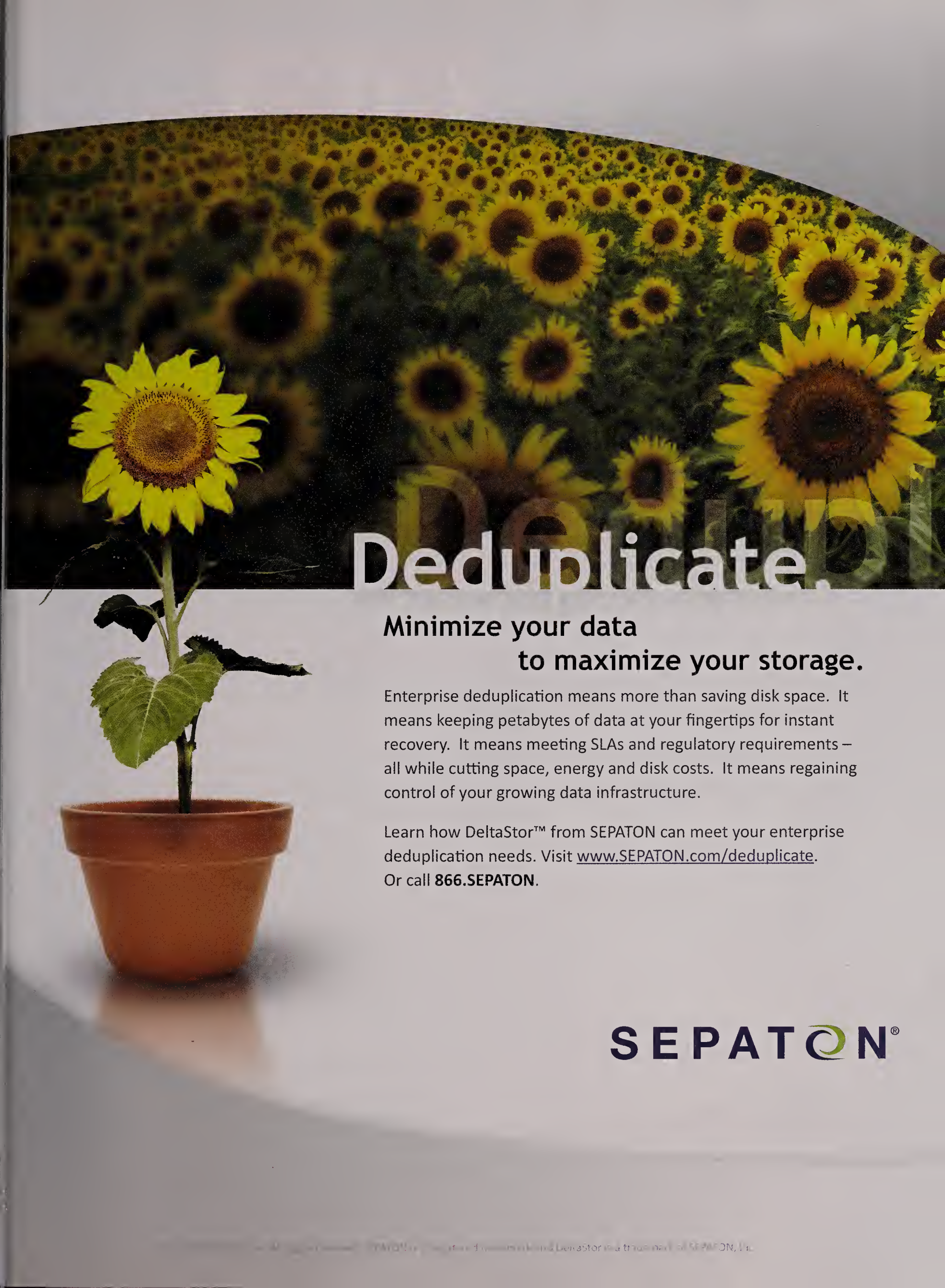
Chris Potts is director of Dominic Barrow, an IT strategy consultancy. To comment on this article, go to www.cio.com/article/179251.



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Business Offices: CXO Media
Inc., 492 Old Connecticut Path,
P.O. Box 9208, Framingham, MA
01701-9208, 508 872-0080.

CIO (ISSN 0894-9301) is published semimonthly and as a combined issue Dec. 15/Jan. 1 by CXO Media Inc. Periodicals postage paid at Framingham, MA, and at additional mailing offices. Canada Publications Mail Agreement Number PM40063731. CANADIAN POSTMASTER: Please return undeliverable copy to P.O. Box 1632, Windsor, ON N9A 7C9.

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5 Things I've Learned

THE VOICE OF EXPERIENCE * AS TOLD TO JARINA D'AURIA

Leadership expert **Jim Champy**, who cowrote *Reengineering the Corporation*, is chairman of Perot Systems consulting practice. His latest book is *Outsmart: How to Do What Your Competitors Can't*.



Technology enables business change.

Most of the business models in *Outsmart* could not have been built without a sound and innovative IT infrastructure. And in almost every company, the CIO and the CEO were close operating partners. But the most important lesson a CIO has to learn is that, although planning is virtuous, it may slow you down. There are times when you must trust your intuition and act quickly, even if money is not in the budget. But if you throw the budget away, be sure that you can deliver on what the business needs.

Be inspired by your team.

It's inspiring to see a management team that has a great ambition for their business. I'm always looking for the kind of ambition that leads to a genuinely competitive and sustainable strategy. It's not a personal ambition but an ambition for how the business will perform, and it is usually centered on a very substantive idea of how to compete. The 'Shutterfly case in *Outsmart* is a good example of great ambition: Create a social expressions company that connects communities—and make it work for customers and shareholders. (For more about Shutterfly, read the book excerpt at www.cio.com/article/206101.)

Learn from the experienced.

I dedicated the book to my father because he was my first real teacher in business. He taught me about self-reliance and to select my partners carefully. He was also a pragmatist and, having lived through the Depression, he believed hard work—and some smarts—could get you through almost any challenging economic condi-

tion. And I have learned that any great business requires hard work and persistence.

Greatness emerges in times of crisis.

The business leaders whom I admire the most are not those appearing on magazine covers. There are good leaders who are big names, but I most admire the leaders who are working quietly to build a great business. I will go back in business history and tell you about Jim Burke. Burke was Johnson & Johnson CEO during the Tylenol contamination disaster. He handled the crisis brilliantly and reinforced the company's commitment to its values.

Innovate through the hard times.

I would tell the CIO not to be intimidated by a recession. Even during a recession, good companies grow. They find a new idea that drives growth, or they take customers away from frightened competitors by operating better. There is always opportunity—go find it.

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